

FINLUX

3028

MODEL

SERVICE MANUAL

SERVICE ADJUSTMENTS WHICH MUST BE MADE WITH RC HAND UNIT

SERVICE MODE

Before making adjustments with RC hand unit, make sure the supply voltage is correctly adjusted (see service adjustments on power supply/horizontal deflection unit).

Number buttons of the hand unit are used for service adjustments when the set is in the service mode. Analog controls function normally; teletext controls and other special controls don't function.

TV receiver is set to the service mode by pressing quickly one norm button N1, N2 or N3 (or P/C button on the hand unit) and within 8 seconds the service switch located in the local control unit (see figure). In the service mode the display shows one indicator led illuminating and other segments are off. You can get back to normal TV mode by pressing the service switch again. It is possible to get to the service mode only from TV mode.

Remote control commands in the service mode are as follows:

- With number buttons you can give a two numbered code which determines the adjustment (e.g. 27=picture height).

- The adjustment is then made by pressing STEP+ and STEP- buttons.

- The adjusted value is stored to the NVM by pressing -/- button. You must store each function separately. The value of the adjustment range is 00...31 for vertical and horizontal compensation and 00...63 for other adjustments.

- The version number of the NVM can be asked by pressing P/C button. It is shown in hexadecimal form (e.g. "02" = 2k memory, "01" = 1k memory).

CONFIGURATION AND FAULT DIAGNOSIS FOR CIRCUITS CONNECTED TO THE IIC-BUS

By pressing 04 in the service mode, the processor checks all possible addresses of bus driven circuits and shows the address of the circuit if found for about one second. After checking all the circuits, the display shows 04 again.

The set must be configured after adding or removing some options eg:

- adding or changing the teletext module
- adding the inner satellite unit
- changing the scart unit (copy function)

The configuration of the set is stored in the NVM by pressing -/- button. The set takes the new configuration in use only after resetting the set with the mains switch. The configuration serves also as a fault diagnosis system.

In table 1 is shown the remarks for the adjustments.

In table 2 is shown two numbered codes for adjustments. If you choose the code which is not defined, the display will show the previous code again.

If all adjustments must be made, follow the order in table 2.

NB! Horizontal linearity is adjusted with L25.

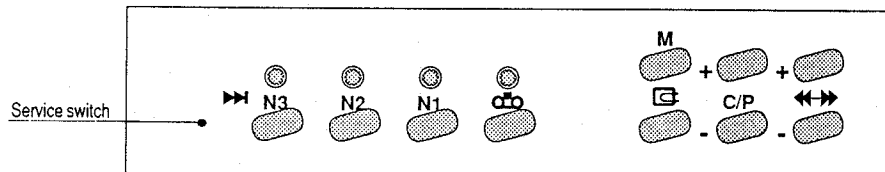
In table 3 is shown the display codes during configuration in the sequence the microprocessor checks them.

NB! There is an adjustment for vertical and horizontal shift (codes 30 and 38) both in 50Hz and 60Hz systems. While adjusting you must have the right transmission.

TABLE 1		
Adjustment	Code	Remarks
R and G gain	22 and 23	Adjust white area of test picture to white.
Line frequency	25	Connect test point 39 to the ground before adjustment.
Picture height and vert. comp.	27 and 31	Set brightness and contrast to 20% and adjust the picture height (code 27). Press memory button (-/-). Set brightness and contrast to 90 % and compensate the change in picture height (code 31). Press memory button (-/-).
Picture width and hor. comp.	32 and 36	Set brightness and contrast to 20% and adjust the picture width (code 32). Press memory button (-/-). Set brightness and contrast to 90% and compensate the change in picture width (code 36). Press memory button (-/-).

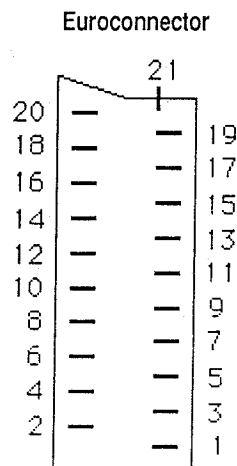
TABLE 2	
Adjustment	Code
Line frequency	25
Vertical shift/50Hz	30
Vertical shift/60Hz	38
Picture height	27
Vertical compensation	31
Vertical linearity	28
Hor. phase shift	26
Picture width	32
Hor. compensation	36
Trapez correction	35
S-correction	29
E-W corner correction	34
E-W raster correction	33
R gain	22
G gain	23

TABLE 3	
06	Satellite processor
04	Teletext processor (high feature)
22	CCT basic teletext (IC12)
d2	RGB-switch (ICe1)
94	Extra videoswitch (only in monitor)
92	Copy switch (IC12)
90	Scart switch (IC11)
80	Sound adjustment circuit (ICd1)
84	Stereo identification circuit (ICd2)
48	Driver of the decoder (ICe2)
8C	Sync processor (IC2)
C2	PLL (IC11)
A2	NVM of teletext (IC15)
A0	NVM of TV (IC11)
Pn	Picture memory n kilobyte
An	Antiope text

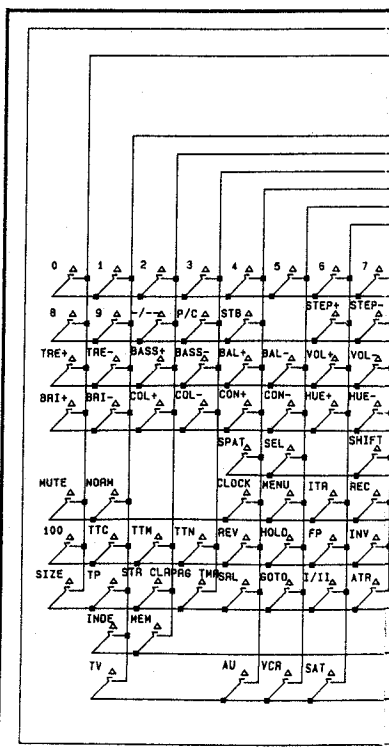


SCART EUROCONNECTOR

Contact number	Signal	Matching value
1	Audio output	0.5V/1kohm
2	Audio input	0.5V/10kohm
3	Audio output	0.5V/1kohm
4	Audio ground	-
5	Blue ground	-
6	Audio input	0.5V/10kohm
7	Blue input	0.7V/75ohm, positive going signal
8	Function switching (TV/VCR)	Logical zero: 0V to +0.4V Logical one: +9.5V to +12V Open collector
9	Green ground	-
10	No connection permitted	-
11	Green input	0.7V/75ohm, positive going signal
12	No connection permitted	-
13	Red ground	-
14	RC-signal input	Min 6Vpp, max 12Vpp
15	Red input	0.7V/75ohm, positive going signal
16	Fast blanking input	Logical zero: 0V to +0.4V Logical one: +1V to +3V
17	Video ground	-
18	Fast blanking ground	-
19	Video output	1V/75ohm, positive going video
20	Video input	175ohm, positive going video
	Synchronization input	0.3Vpp/75ohm
21	Plug shield	Connected to chassis

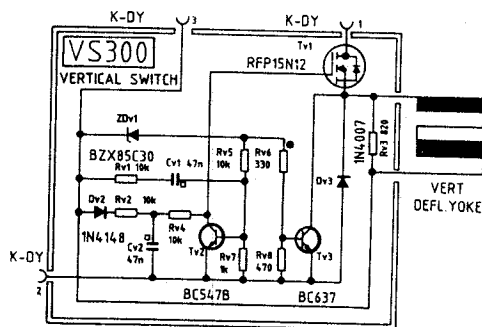
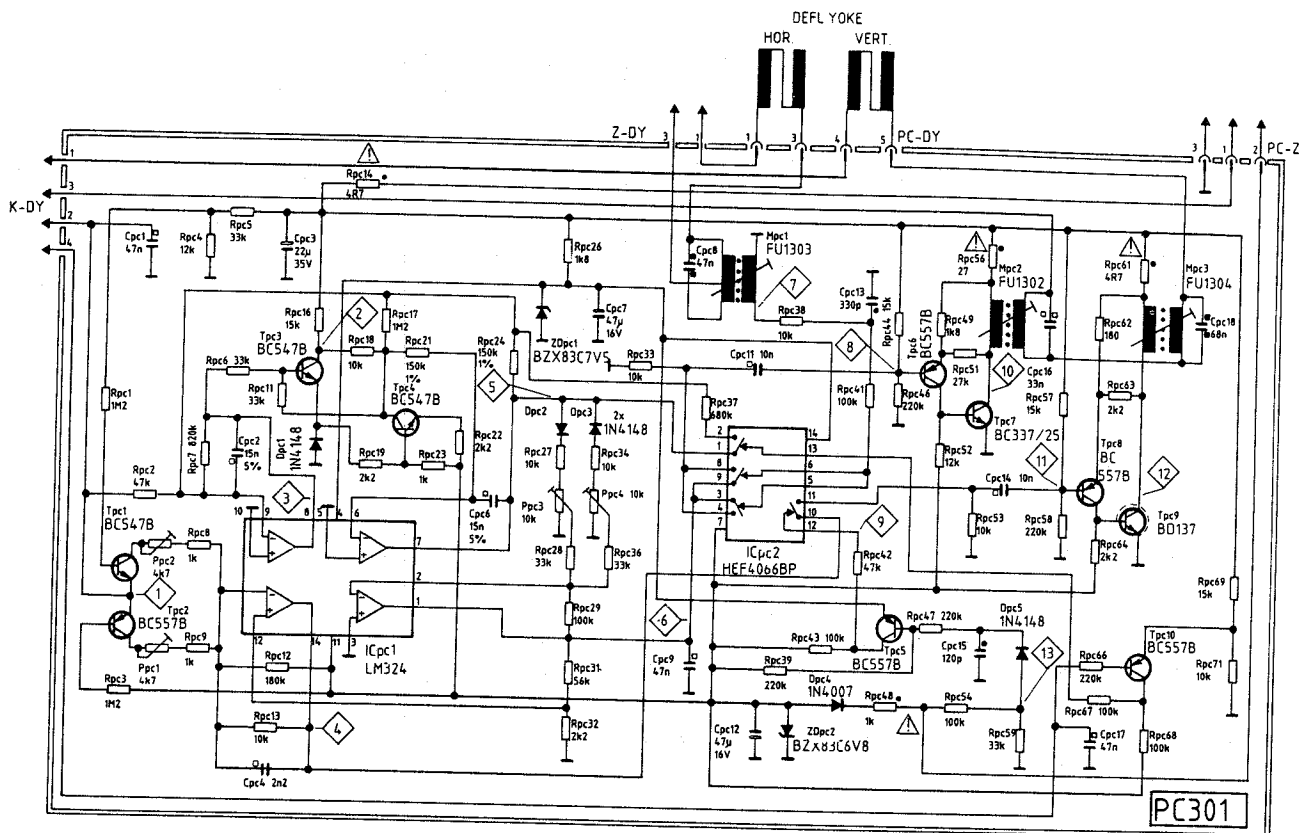


REMOTE CONTROL TRANSMITTER



RASTER CORRECTION MODULE

PC301



RASTER CORRECTION MODULE PC301

SERVICE ADJUSTMENTS

The adjustments have to be made in the following order. Use cross hatch pattern.

PC1. Dynamic S-correction

Connect the oscilloscope to test point 7, and adjust the curve according to figure 1, with Mpc1.

PC2. North-South phase correction

Turn Ppc1 fully clockwise viewed through the print side. Adjust Mpc3 until the bow of the pattern is horizontally in the middle of the screen.

PC3. North-South amplitude correction

Adjust the horizontal lines as straight as possible with Ppc1 and Ppc2.

PC4. Gullwing phase correction

Turn Ppc3 and Ppc4 to the middle position. Connect the oscilloscope to test points 7 and 10, and adjust the curves according to the figure 2, with Mpc2.

PC5. Gullwing amplitude correction

Adjust the horizontal lines as straight as possible with Ppc3 and Ppc4.

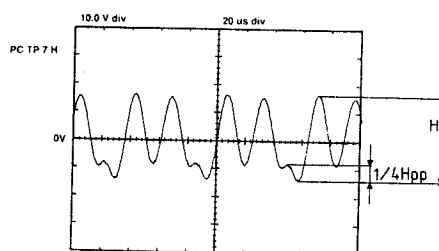


FIG.1

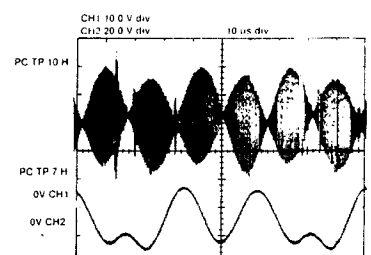
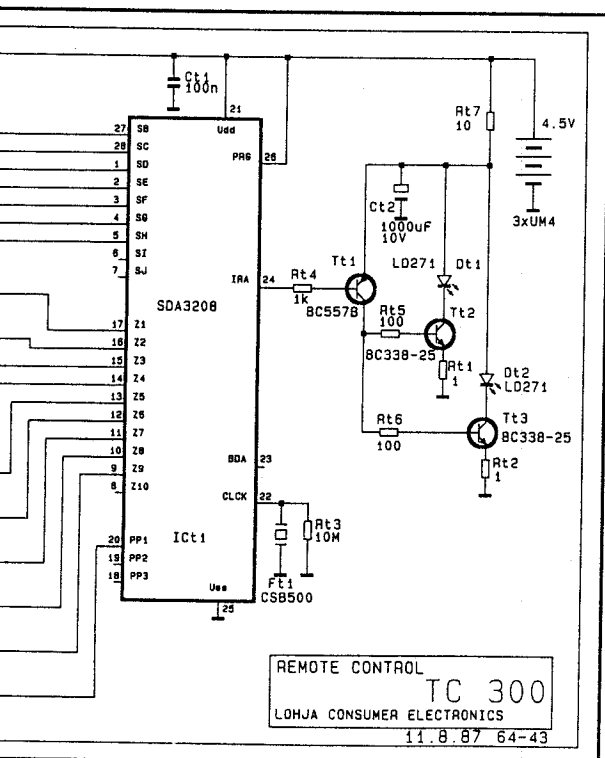


FIG.2

TC300

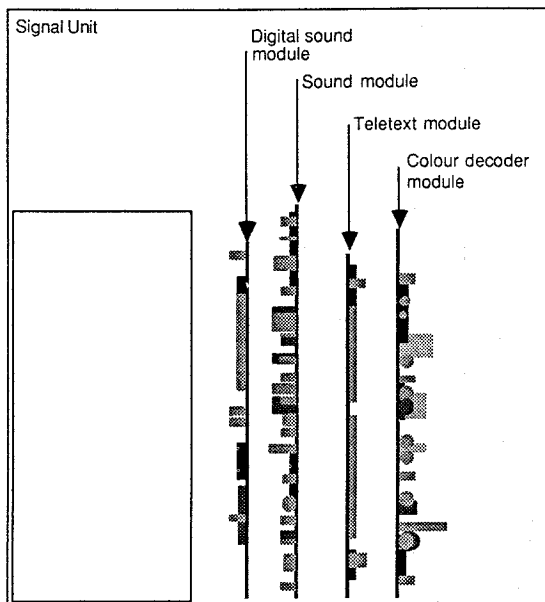


REMOTE CONTROL
TC 300
LOHJA CONSUMER ELECTRONICS
11.8.87 64-43

GB

MOUNTING INSTRUCTIONS OF THE TELETEXT MODULE

1. Mount the Teletext module into the teletext connectors of the Signal Unit (see fig.).
2. Switch the receiver on and set it to the service mode.
3. Start the configuration by pressing 04, store it in the NVM by pressing +/- button and reset the set with the mains switch.



SDA 2060

CAAD = Clock activated analog display
NPCLR = No page clear in step function
FULLF = Full field teletext reception is possible
APS1, APS0 = Advertising page select

APS1	APS0	
0	0	None
0	1	Quelle
1	0	Finlux
1	1	Asa

IPLB0, IPLB1, IPLB2

IPLB2	IPLB1	IPLB0	
0	0	0	Automatic selection through transmitted language bits
0	0	1	Italian info page
0	1	1	German info page
1	1	0	French info page
1	1	1	English info page

SAA 5231

STTV = Sync output to TV
Osc out = Oscillator output (6 MHz)
Osc in = Oscillator input (6 MHz)
VID IN = Composite video input
TTD = Teletext data output
TTC = Teletext clock output
F6 = 6 MHz clock output
VCS = Video composite sync output
SAND = Sandcastle input
TCS = Sync input

SAA 5241

COR = Contrast reduction
TTD = Teletext data input
TTC = Teletext clock input
F6 = 6 MHz clock input
VCS = Video composite sync input
SAND = Sandcastle output
TCS/SCS = Text composite sync/scan composite sync output
HOK = Hamming O.K.
D0 - D7 = 8 RAM data lines
OE = Output enable
VCC = Power supply
SCL = Serial clock input
SDA = Serial data
Y = Character foreground
R = Red output
B = Blue output
G = Green output
FB = Blanking output
A10 - A12 = Chapter address output
A0 - A9 = RAM address output
WE = Write enable output

SAA 5231

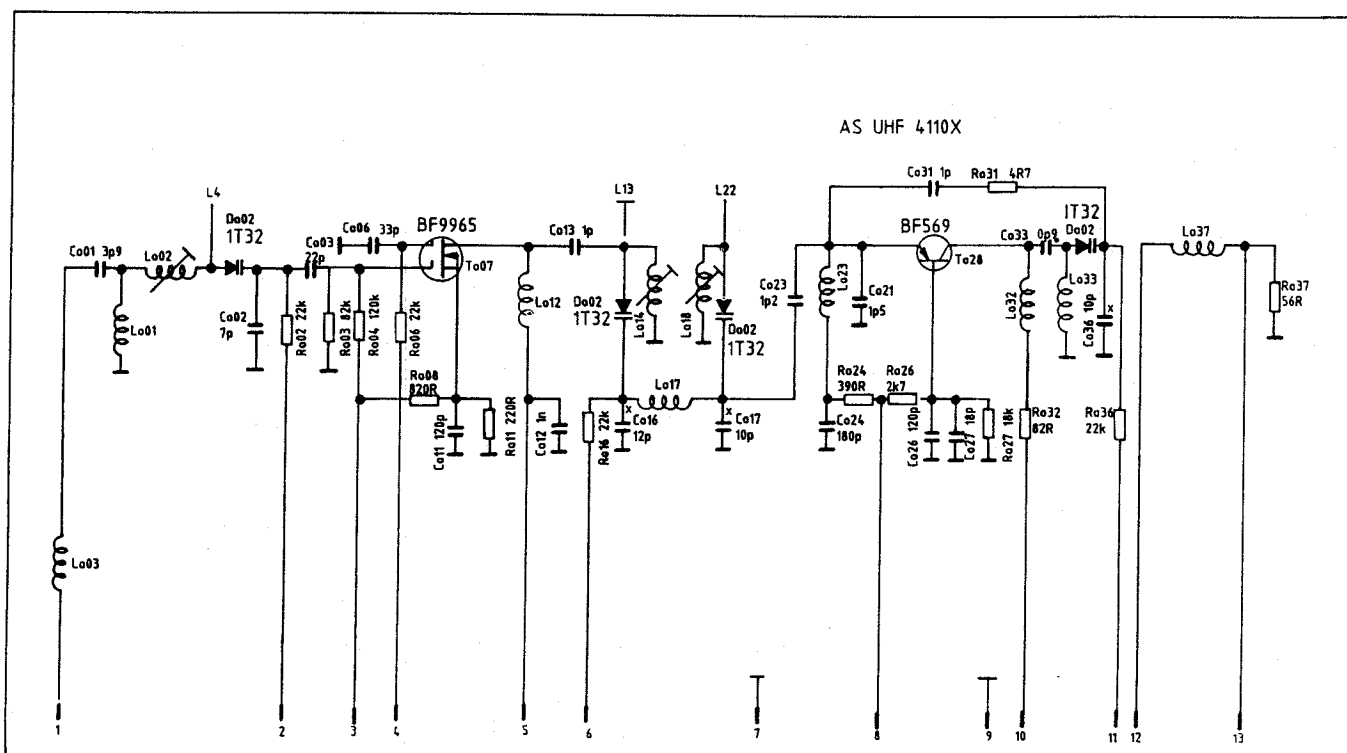
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SAA 5240

COR = Contrast reduction
TTD = Teletext data input
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F6 = 6 MHz clock input
VCS = Video composite sync input
SAND = Sandcastle output
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Email:- enquiries@mauritron.co.uk

UHF SUBMODULE 4110



SAA 5241

- = Clock activated analog display
- = No page clear in step function
- = Full field teletext reception is possible
- = Advertising page select

APS1	APS0	
0	0	None
0	1	Quelle
1	0	Finlux
1	1	Asa

- = Info page language bits

IPLB2	IPLB1	IPLB0	
0	0	0	Automatic selection through transmitted language bits
0	0	1	Italian info page
0	1	1	German info page
1	1	0	French info page
1	1	1	English info page

- = Sync output to TV
- = Oscillator output (6 MHz)
- = Oscillator input (6 MHz)
- = Composite video input
- = Teletext data output
- = Teletext clock output
- = 6 MHz clock output
- = Video composite sync output
- = Sandcastle input
- = Sync input

COR
TTD
TTC
F6
VCS
SAND
TCS/SCS

HOK
D0 - D7
OE
VCC
SCL
SDA
Y
R
B
G
FB
A10 - A12
A0 - A9
WE

- = Contrast reduction
- = Teletext data input
- = Teletext clock input
- = 6 MHz clock input
- = Video composite sync input
- = Sandcastle output
- = Text composite sync/scan composite sync output
- = Hamming O.K.
- = 8 RAM data lines
- = Output enable
- = Power supply
- = Serial clock input
- = Serial data
- = Character foreground
- = Red output
- = Blue output
- = Green output
- = Blanking output
- = Chapter address output
- = RAM address output
- = Write enable output

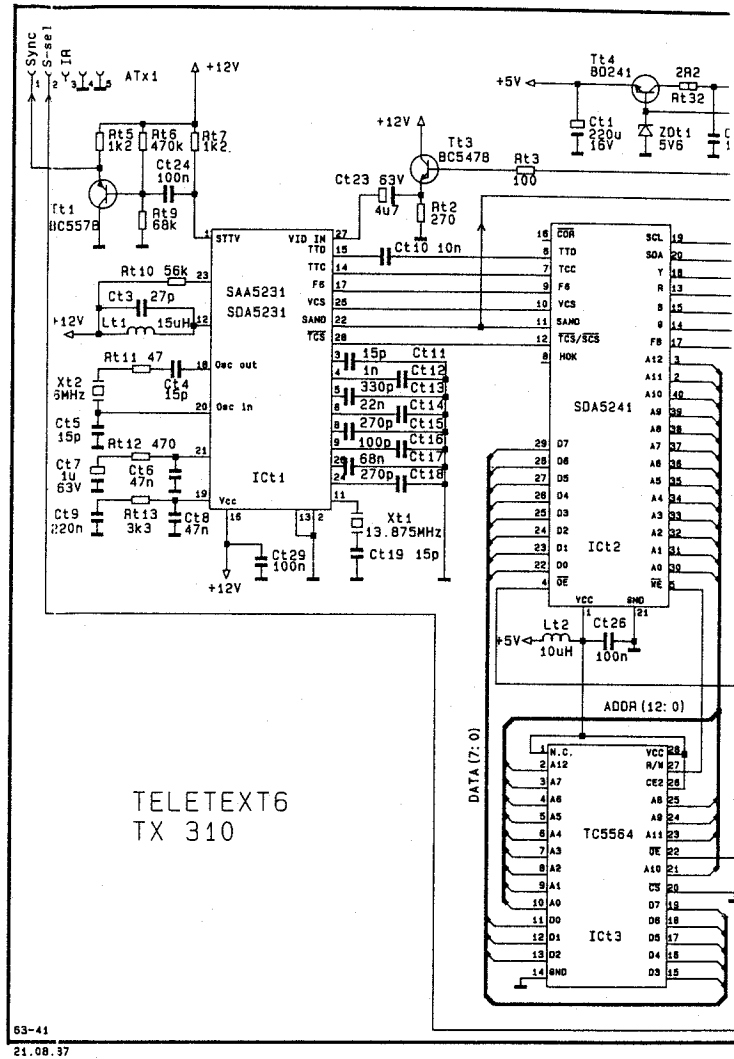
SAA 5240

COR
TTD
TTC
F6
VCS
SAND
TCS/SCS

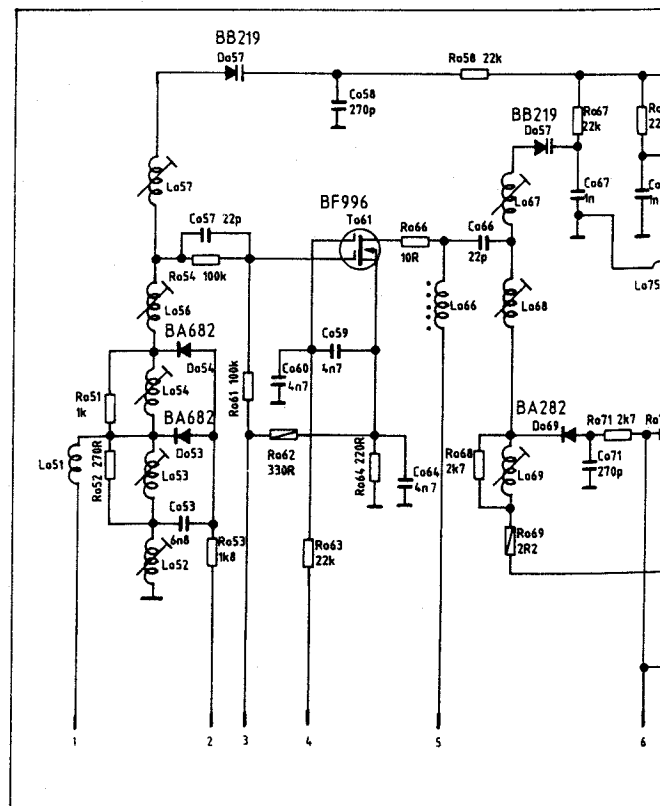
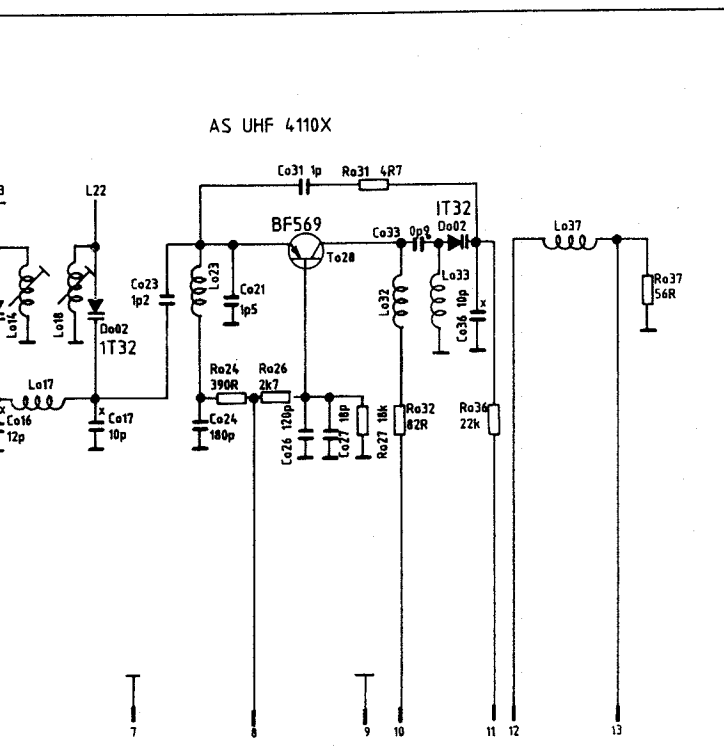
HOK
D0 - D7
OE
VCC
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- = Contrast reduction
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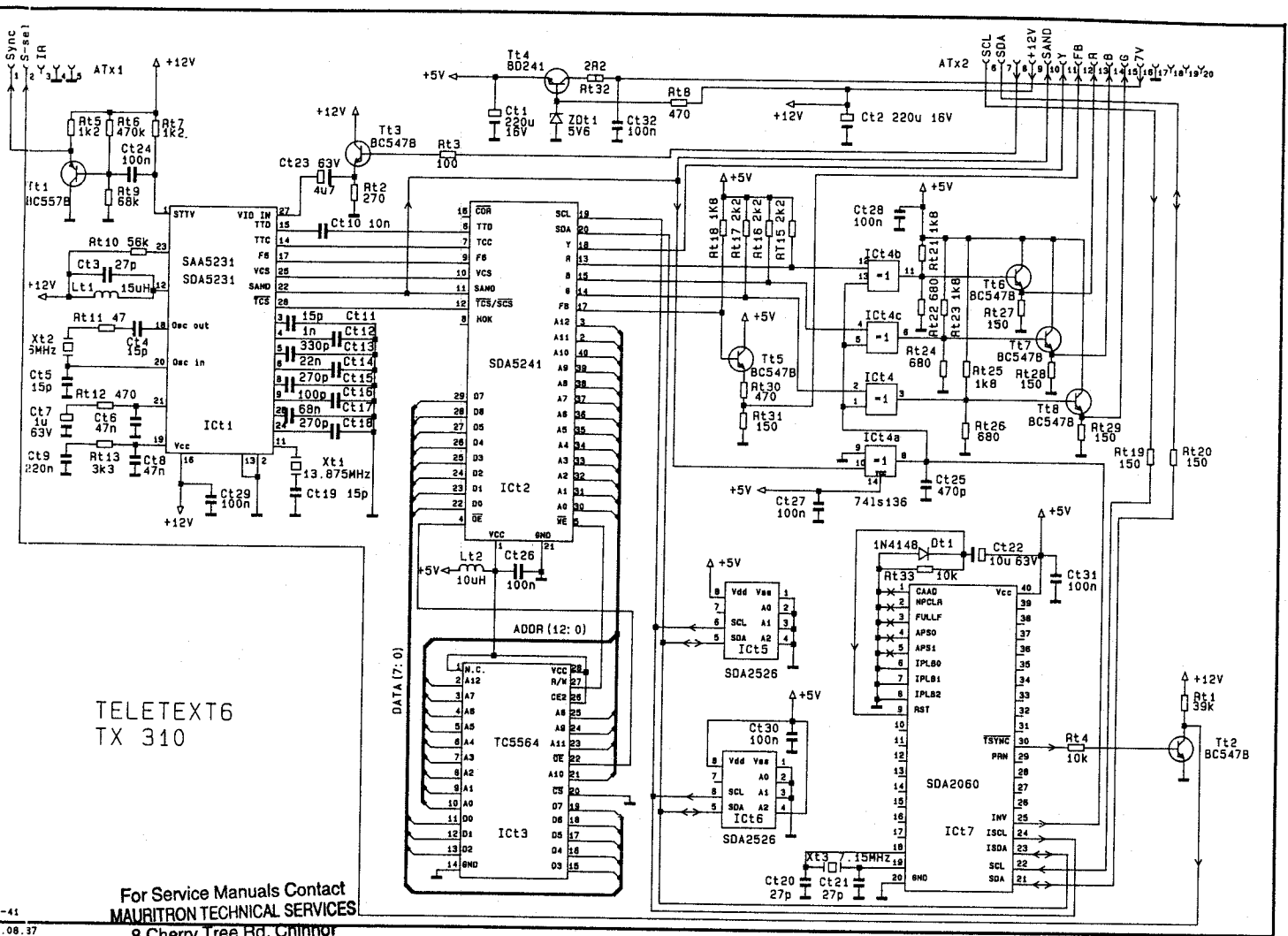
TELETEXT MC



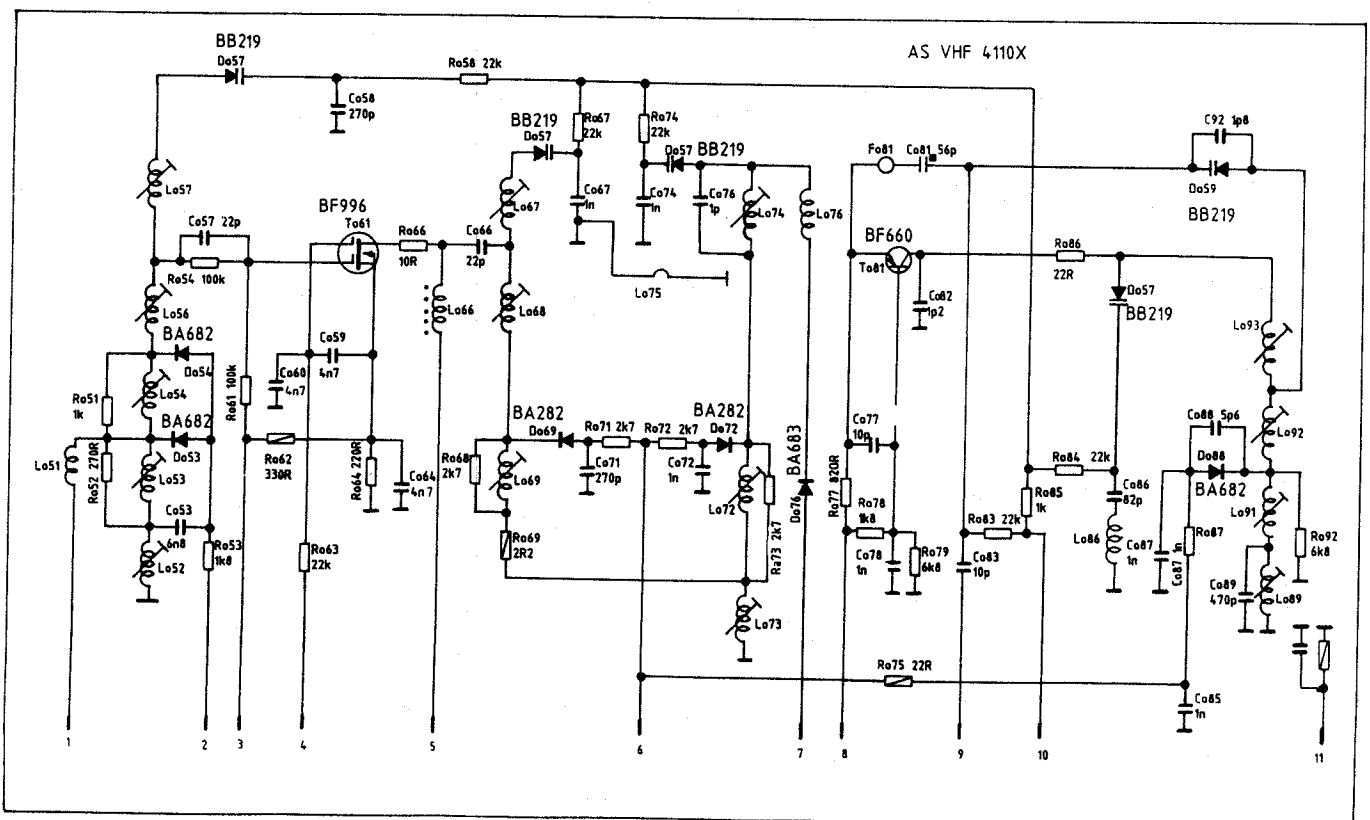
UHF SUBMODULE 4110

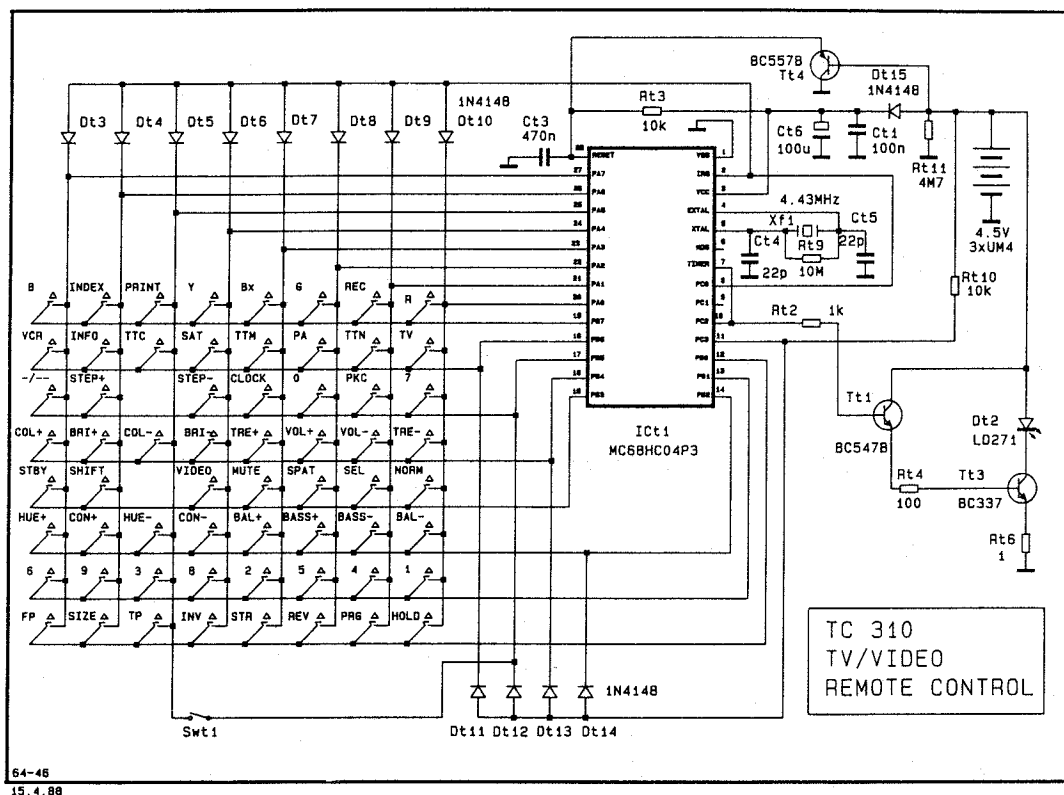


TELETEXT MODULE TX310



VHF SUBMODULE 4110





	RN100	RN101
Cr11	56p	56p + 100p
Fr01	TH3168QM-2080QDAF	TH3168QM-2110QDAF
Xr01	5,85 MHz	6,552 MHz

PERMANENT PROGRAMMING OF RC3010

Remote control hand unit RC3010 can be programmed for different VCRs by using programming switch and number buttons as described in instruction manual. The basic setting mode of the remote control functions is mode 0 (FINLUX VR 2008) or 8 (ASA VR 2017). You can change the basic setting permanently by mounting the diodes Dt11...Dt14 (1N 4148) according to the table 1. When changing the batteries or when remote control unit lacks the operating voltage for some other reason, the basic setting mode is always taken in use after reconnecting the operating voltage.

From table 2 you can find which VCR models function in which mode.

Mode 0	FINLUX VR 2008, SCHNEIDER 266
Mode 1	FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040 ASA VR 6000, VR2019 PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
Mode 2	SHARP 781, 783, 785, 100, 102, 501, 801, 851
Mode 3	SHARP 682, 683, 684, 685, 693, 6F3
Mode 4	JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
Mode 5	D.E.R.
Mode 6	HITACHI VT-250, VT-120, VT-130, VT-150 414E, 420
Mode 7	PANASONIC NV-G 12, 21, 25, NV-870 BLAUPUNKT RTV-320
Mode 8	ASA VR 2017

Table 2

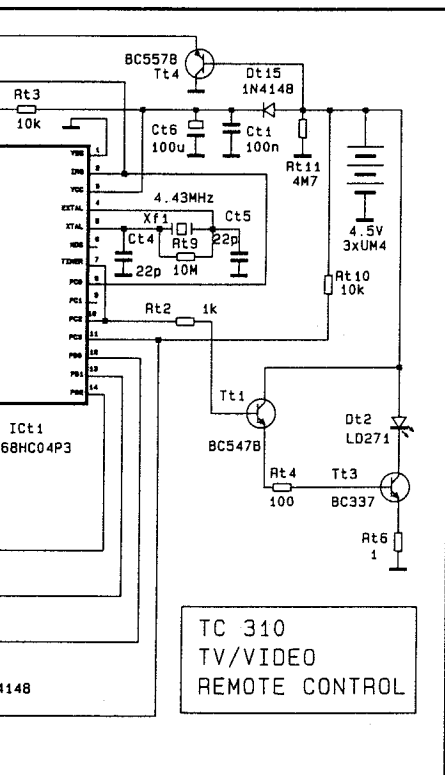
2) Mounting of the Nicam

- o Check that resistors R are missing, fit 15 kohm
- o Bend the coil Lf3 (6,8 mH) unit.
- o Bend also the signal u connector.

	Dt11	Dt12	Dt13	Dt14
Mode 0	-	-	-	-
Mode 1	-	-	-	x
Mode 2	-	-	x	-
Mode 3	-	-	x	x
Mode 4	-	x	-	-
Mode 5	-	x	-	x
Mode 6	-	x	x	-
Mode 7	-	x	x	x
Mode 8	x	-	-	-

Table 1

Order no. Art.nr Tilausnumero	NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
03500606	RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1242, 1248, 1288, 2232, 2242, 2272, 2282
03500607	RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 1332, 2333, 2336, 2342, 2343, 2346, 2372, 2386
03500608	RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 24
03500609	RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682

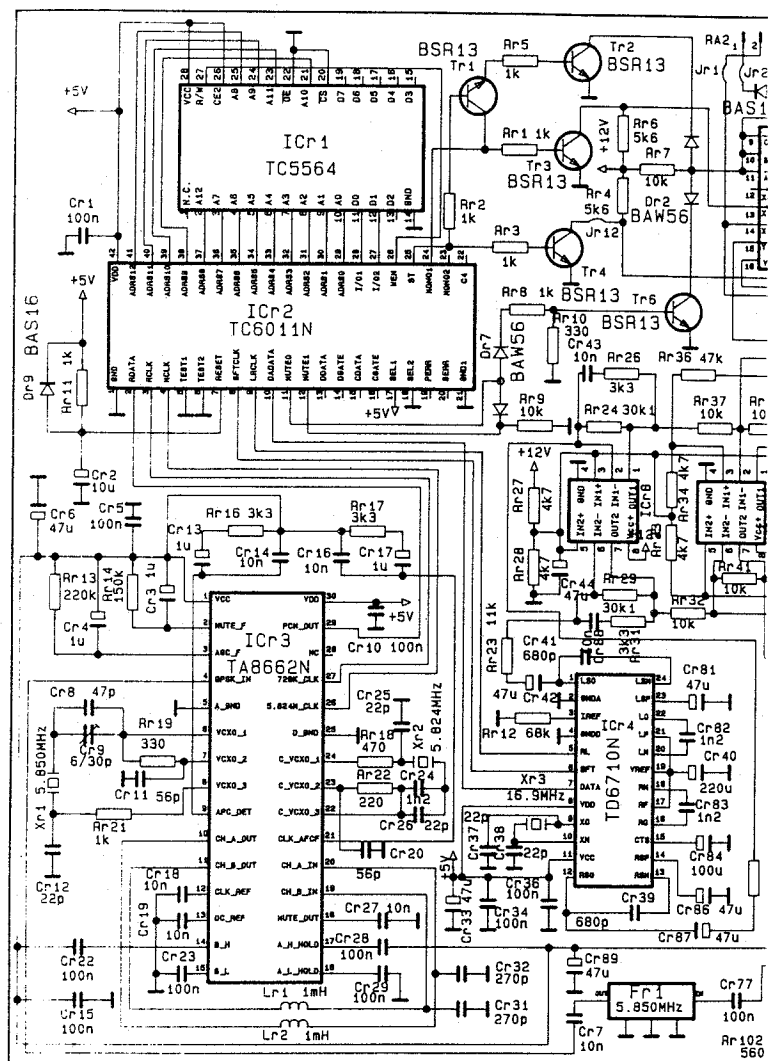


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	RN100	RN101
Cr11	56p	56p + 100p
Fr01	TH316BQM- 20800DAF 5.85 MHz	TH316BQM- 21100DAF 6.552 MHz
Xr01		

FINLUX VR 2008, SCHNEIDER 266
FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040
ASA VR 6000, VR2019
PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
SHARP 781, 783, 785, 100, 102, 501, 801, 851
SHARP 682, 683, 684, 685, 693, 6F3
JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
D.E.R.
HITACHI VT-250, VT-120, VT-130, VT-150, 414E, 420
PANASONIC NV-G 12, 21, 25, NV-870
BLAUPUNKT RTV-320
ASA VR 2017

Table 2



2) Mounting of the Nicam module

- o Check that resistors Rr16 and Rr17 have been composed in the receivers signal unit. If these resistors are missing, fit 15 kohm 0,25 W 5%:
- o Bend the coil Lr3 (6,8 µH) of the NICAM module so that it doesn't touch a coolingplate of the signal unit.
- o Bend also the signal units components that they won't touch the NICAM module when mounting it on connector.

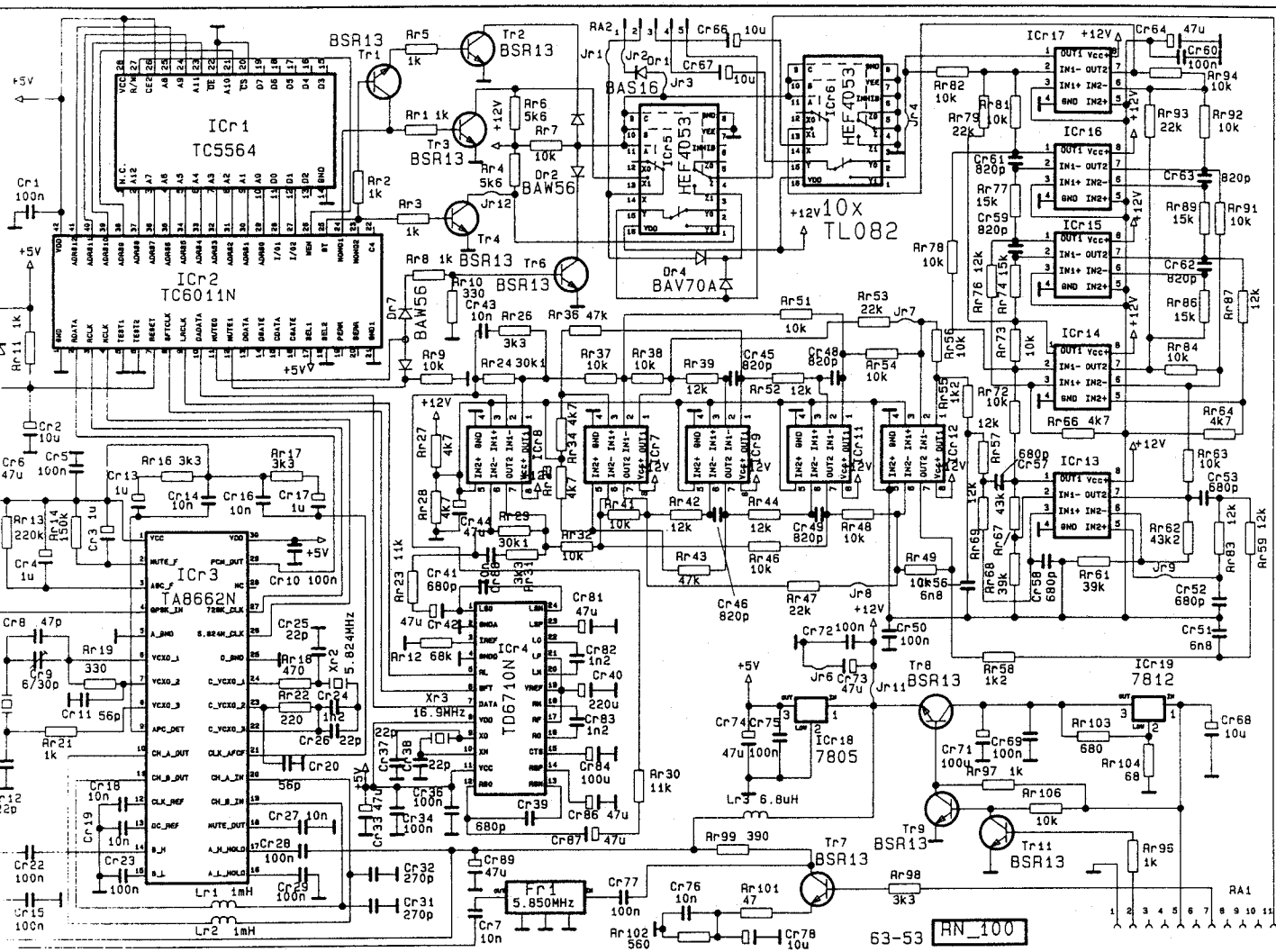
FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted in the same connector.
2. Fit the attached wire between Rr6 and pin 2 of 2ND SOUND connector, as shown in figure 1.
3. Fit the attached bundle of wires to components Rr16 and Rr17 on the component side and to component Dn11 on the foil side, as shown in figure 1. R- and L-channel wires are fitted on the component side to prevent radio disturbances.
4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the 2-sound and Stereo wires under the signal unit, as shown in figure 1.

NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1232, 1238, 1242, 1248, 1288, 2232, 2242, 2272, 2282
RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 1378, 1388, 2332, 2333, 2336, 2342, 2343, 2346, 2372, 2376, 2382, 2386
RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482
RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682

NICAM MODULE RN100 RN101



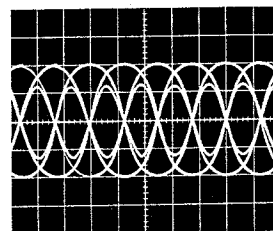
odule

and R17 have been composed in the receivers signal unit. If these resistors
25 W 5%:

of the NICAM module so that it doesn't touch a coolingplate of the signal

components that they won't touch the NICAM module when mounting it on

Probe 10:1
20 mV/div
2 μs/div



FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted into the same connector.
2. Fit the attached wire between Ra6 and pin 2 of 2ND SOUND connector, as shown in figure 1.
3. Fit the attached bundle of wires to components R16 and R17 on the component side and to components D16 and D11 on the foil side, as shown in figure 1. R- and L-channel wires are fitted on the component side to prevent radio disturbances.
4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the stereo, 2-sound and St/mono wires under the signal unit, as shown in figure 1.

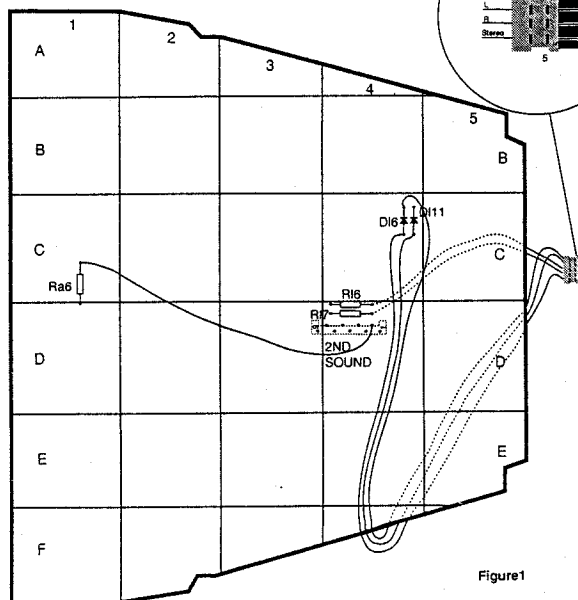
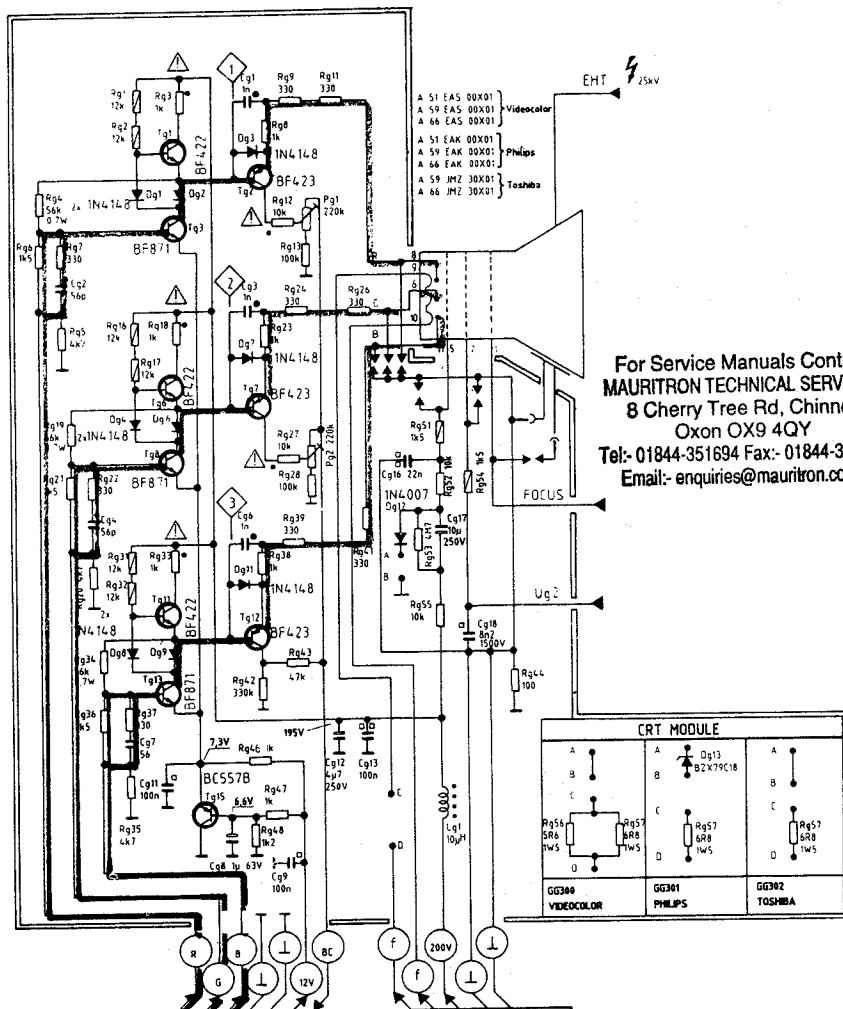
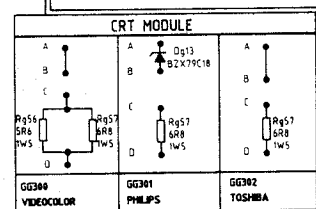


Figure1



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- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G/Y) = GREEN OR LUMINANCE SIGNAL
- (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R OUT) = RIGHT AUDIO CHANNEL
- (L OUT) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (LVBS IN) = VIDEO SIGNAL
- (LVBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA1) = STATUS FROM SCART 1
- (STA2) = STATUS FROM SCART 2
- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SAT COP) = SATELLITE COPYING
- (MODE 1) = MODE INFORMATION 1
- (MODE 2) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (7V TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (H FLYB) = LINE FLYBACK
- (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (F) = FILAMENT VOLTAGE FOR CRT

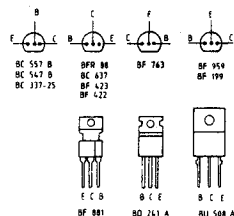
D6

D7

D8

D6

D6

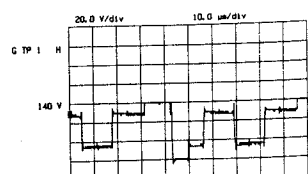
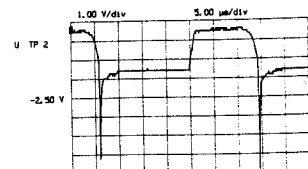


Ceramic	Polystyren	Polyester Polycarbon	Polypropyl	Notes can be combined when necessary
63 - 100V	63 - 100V	100V	100V	Paper capac
				Electrol 15V
160 - 250V	160 - 250V	250V	250V	Electrol 15V
				Electrol 15V
400 - 500V	400V	400V	400V	Bipolar capac
				Phos capac
				Tantal capac
				Y capacitors

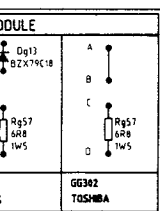
- 1/4W
- 1/2W
- 1W
- 2W
- 3W
- 7W
- 10W
- 15W
- 20W
- 25W
- 30W
- 35W
- 40W
- 45W
- 50W
- 55W
- 60W
- 65W
- 70W
- 75W
- 80W
- 85W
- 90W
- 95W
- 100W

⚠ Critical safety component. Use identical component for replacement.

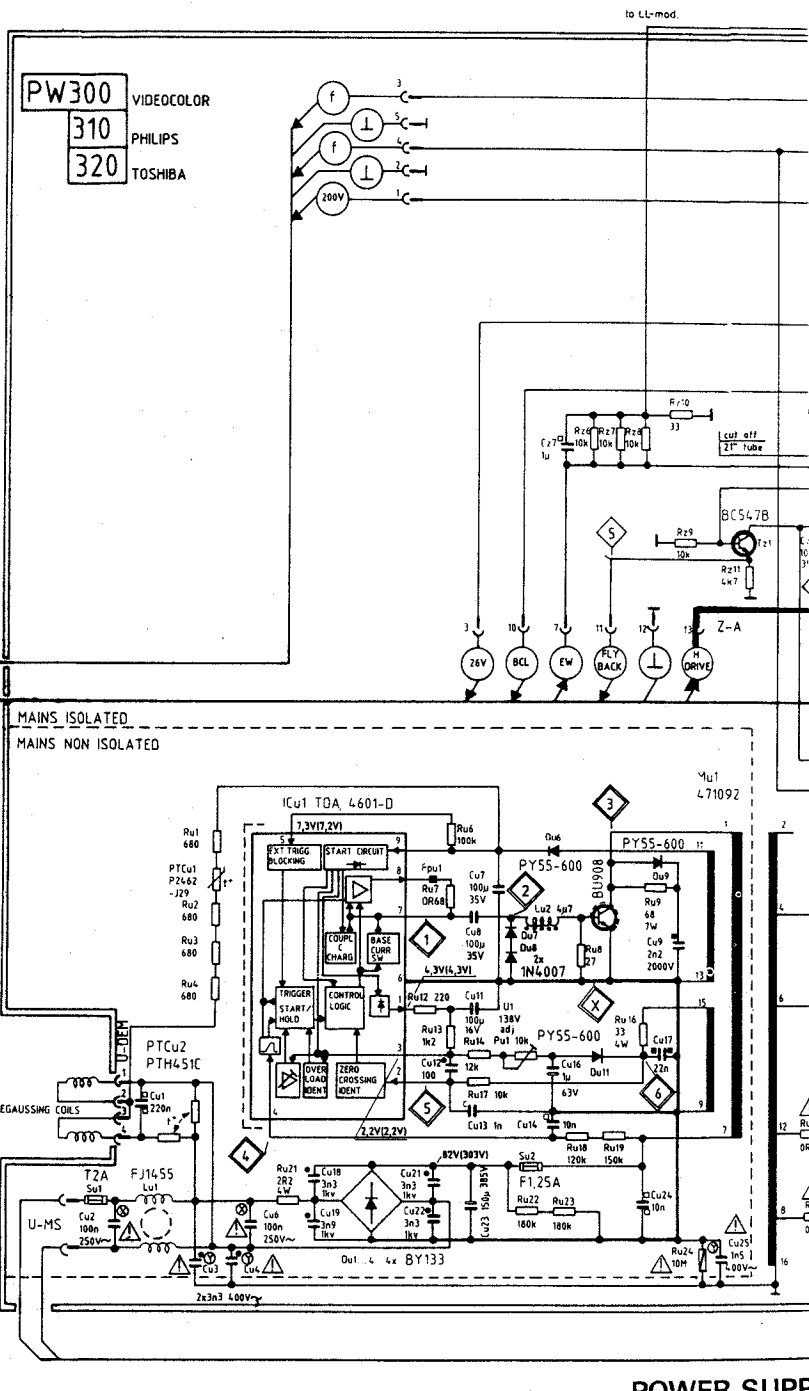
Amplifier	Gain controlled amplifier	Divider	Inverter	
Multiplier	Digital analog converter	Sandcastle pulse generator	Limiter	Demodulator
Voltage regulator	Oscillator	Switch		Sawtooth generator
Schmitt trigger	Phase detector			



- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
 (G/Y) = GREEN OR LUMINANCE SIGNAL
 (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
 (FB) = FAST BLANKING SIGNAL
 (R OUT) = RIGHT AUDIO CHANNEL
 (L OUT) = LEFT AUDIO CHANNEL
 (SCL) = SERIAL CLOCK
 (SDA) = SERIAL DATA
 (R IN) = RIGHT AUDIO CHANNEL
 (L IN) = LEFT AUDIO CHANNEL
 (CVBS IN) = VIDEO SIGNAL
 (CVBS OUT) = VIDEO SIGNAL
 (RC) = REMOTE CONTROL
 (STA) = STATUS FROM SCART 1
 (STA2) = STATUS FROM SCART 2
 (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
 (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
 (SAT COPY) = SATELLITE COPYING
 (MODE 1) = MODE INFORMATION 1
 (MODE 2) = MODE INFORMATION 2
 (RGB INV) = RGB INVERTING
 (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
 (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
 (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
 (BC) = BLACK CURRENT
 (EW) = EAST-WEST RASTER CORRECTION
 (BCL) = BEAM CURRENT LIMITING VOLTAGE
 (7V TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
 (H FLYB) = LINE FLYBACK
 (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
 (f) = FILAMENT VOLTAGE FOR CRT



D8



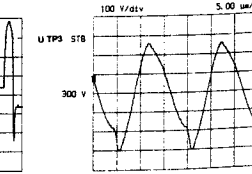
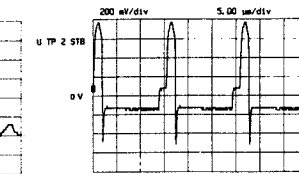
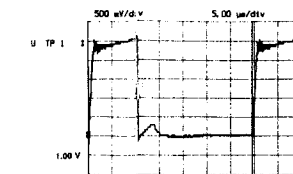
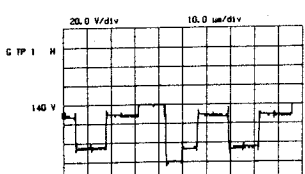
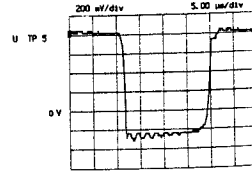
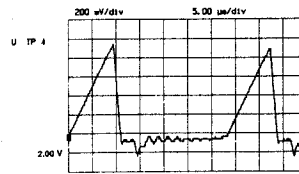
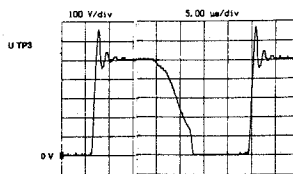
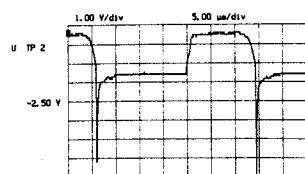
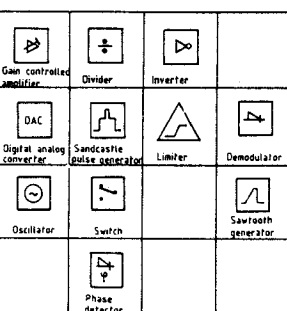
D6

POWER SUPP

D8

D6

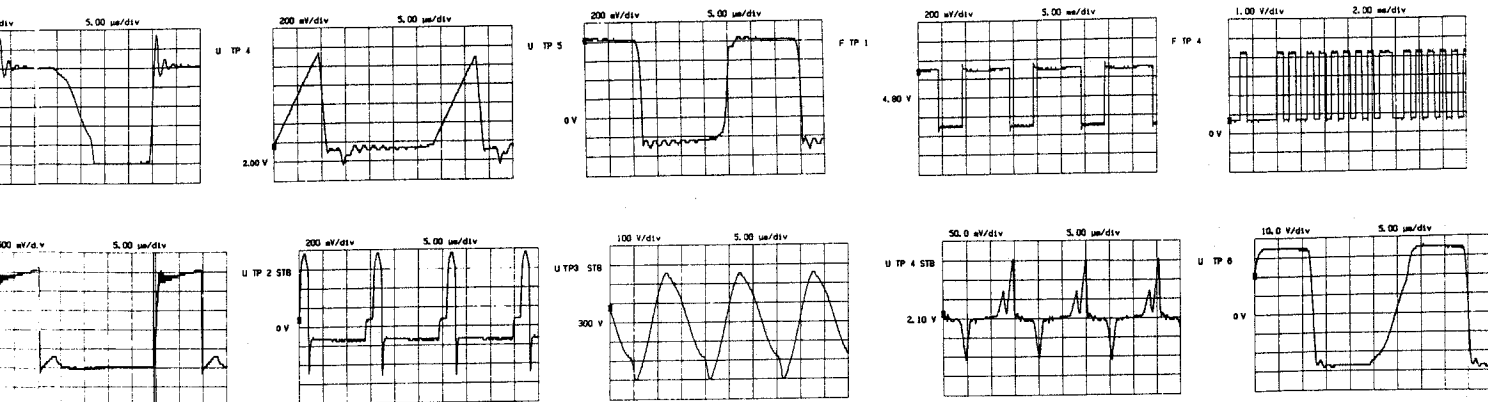
safety component. Use identical component placement.



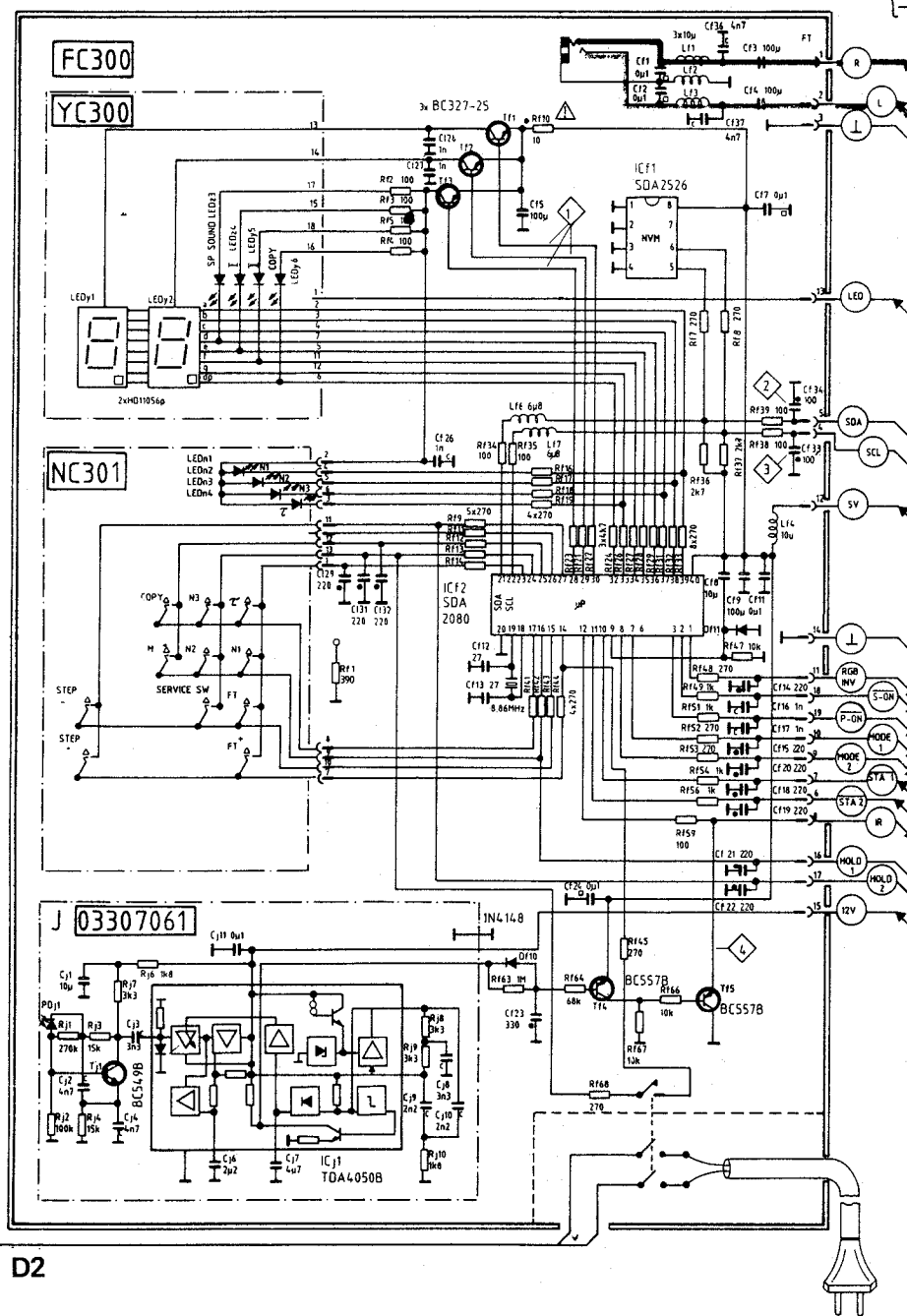
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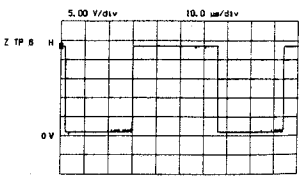
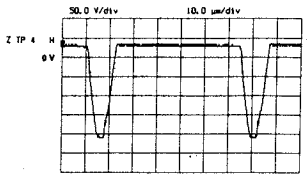
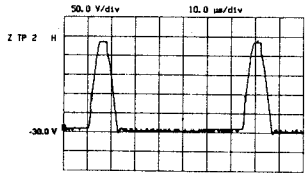
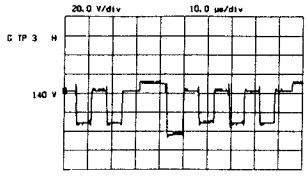
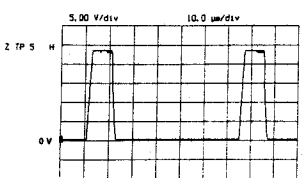
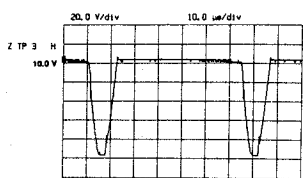
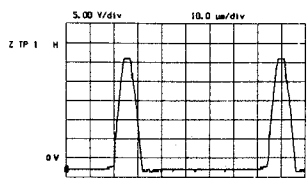
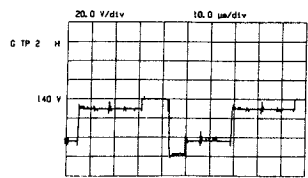
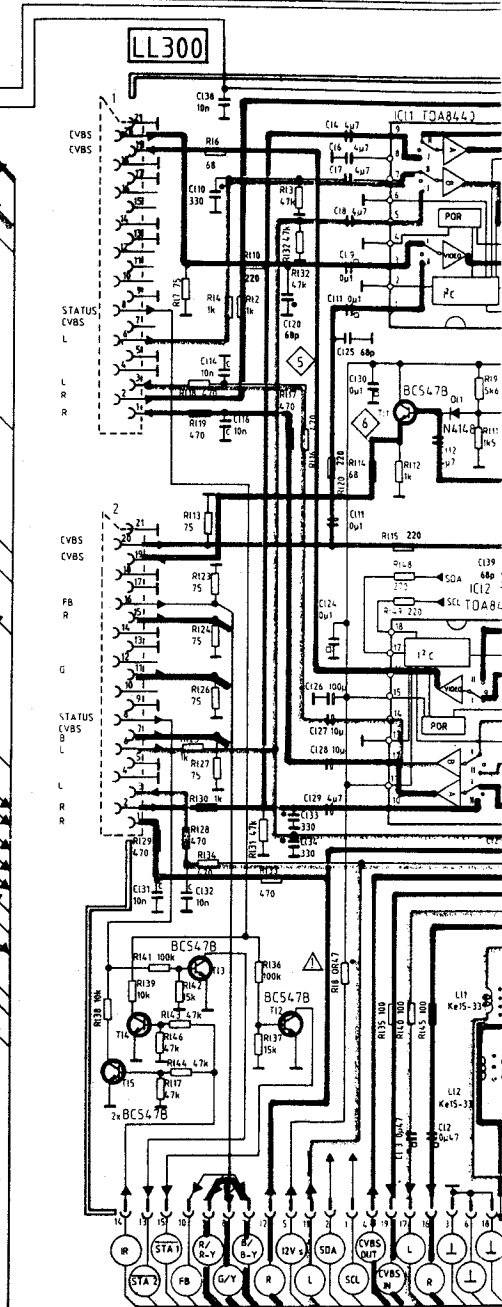
D2

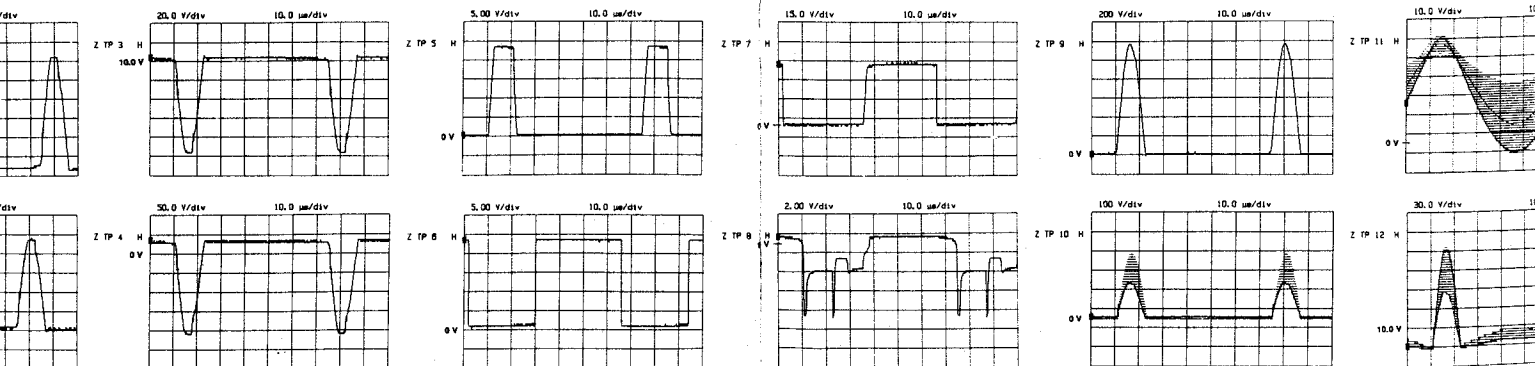
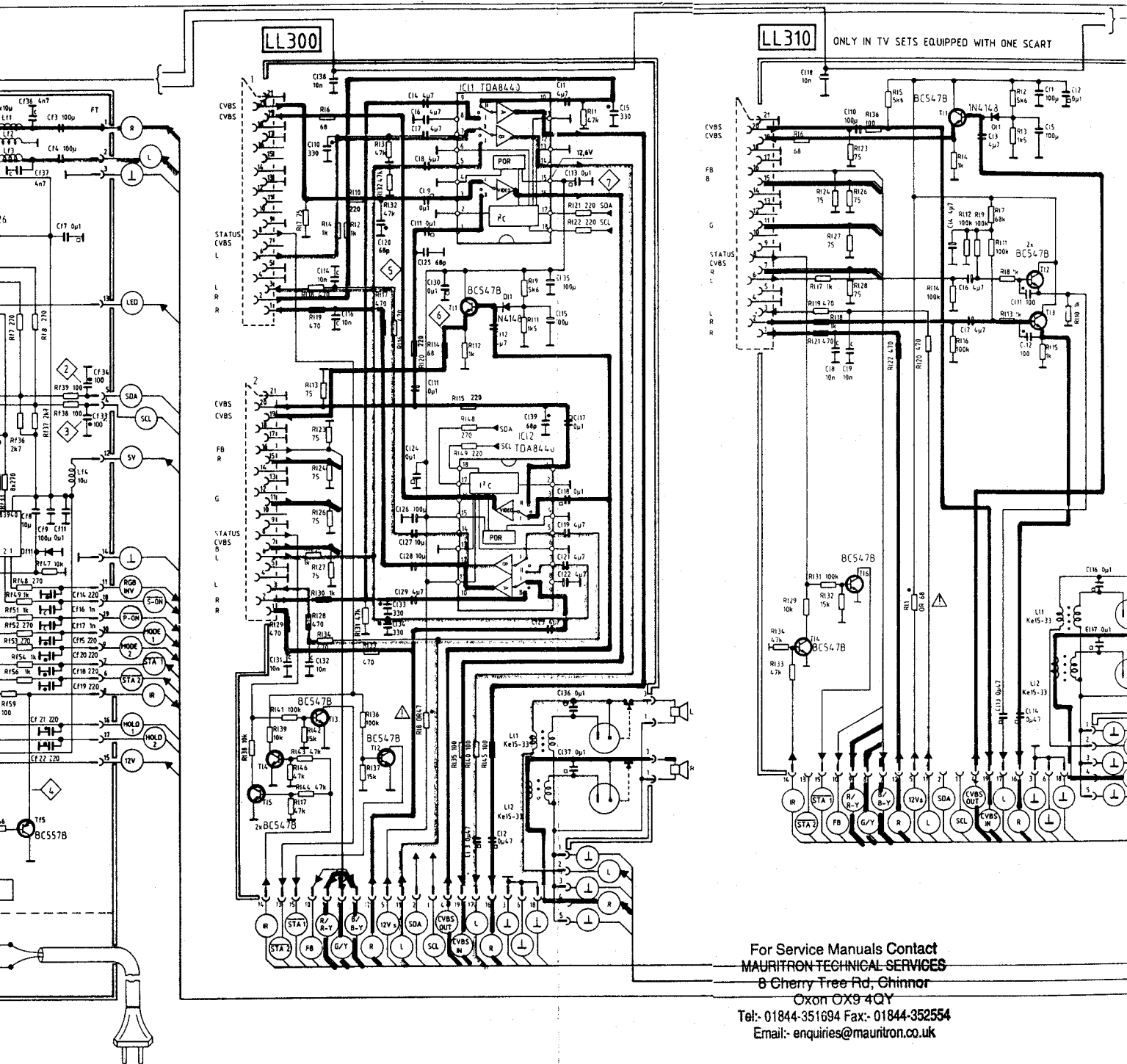


D1



D2





D1



D4

D5

PW300

PW310

PW320

GB

U. POWER SUPPLY

U1. Supply voltage

U1. Supply voltage
Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Du16. Adjust DC-voltage for +138V ($\pm 2V$) with Pu1.

Z. HORIZONTAL DEFLECTION

Z1. Horizontal linearity

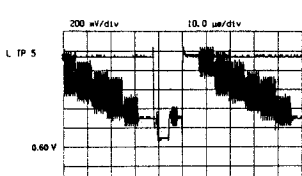
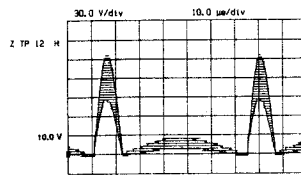
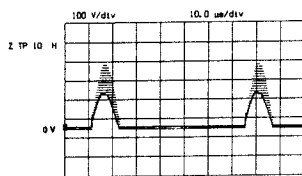
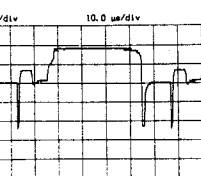
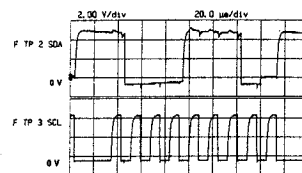
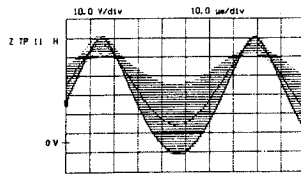
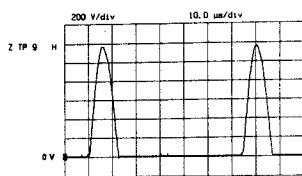
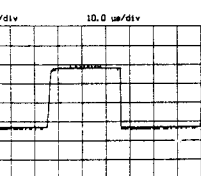
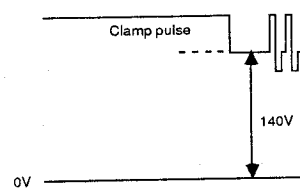
Adjust with Lz5.

22. Focusing

22. Focusing
Set the brightness and contrast to normal level. Using the cross hatch pattern adjust the picture for optimum resolution.

Z3. Screen grid voltage

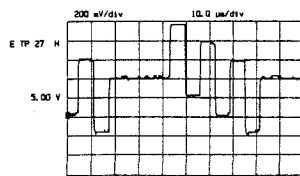
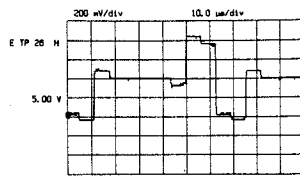
Z3. Screen grid voltage
Set contrast to minimum, brightness and colour saturation to normal level. Use an oscilloscope and control on measuring points 1, 2 and 3 the amplitude of inserted black level clamp pulses during 3 line periods after vertical blanking. Adjust the amplitude of highest clamp pulse to +140V with Ug2 (SCREEN) control (see figure).

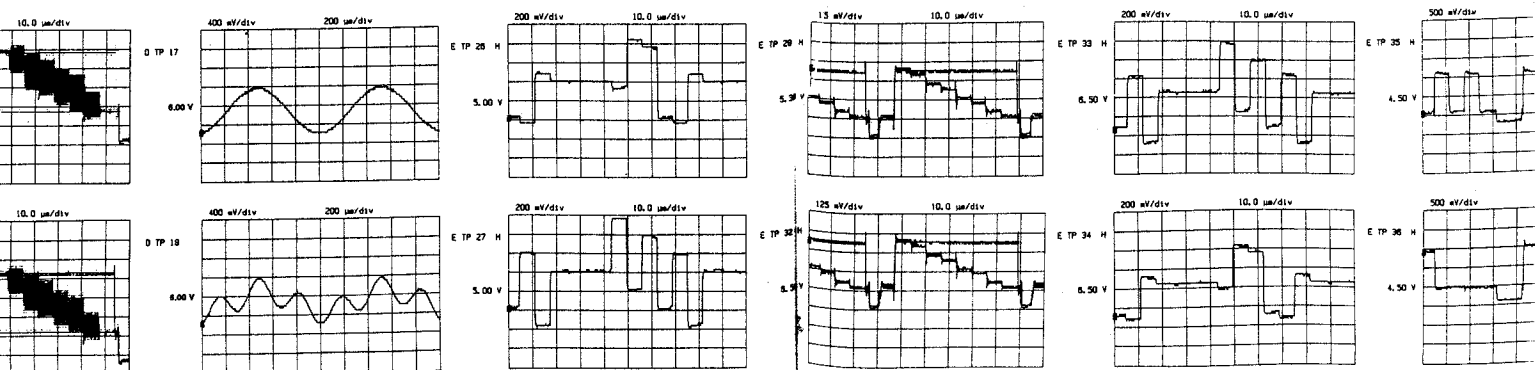
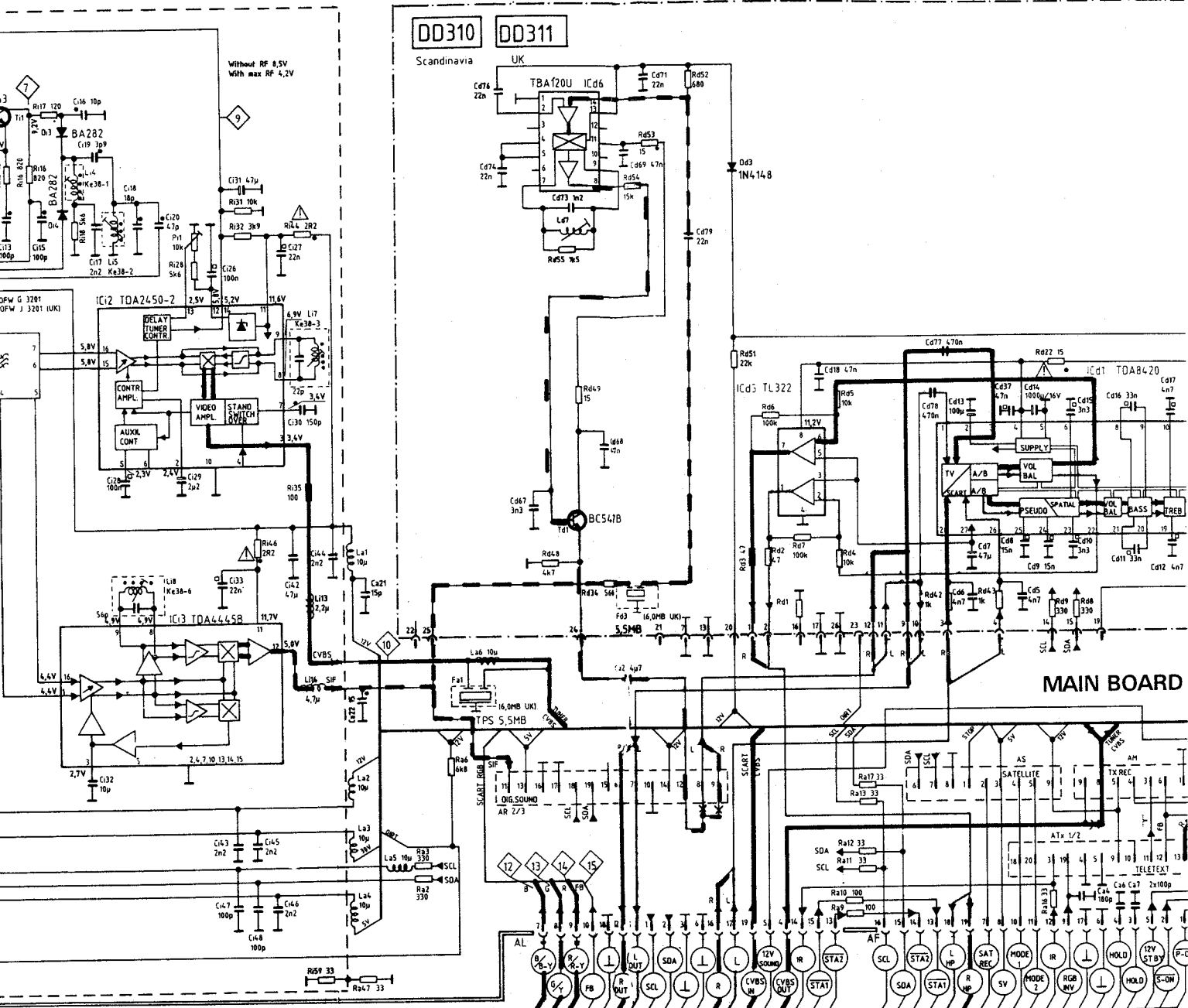




D5

3021F
3024F
3028F
3024S
3028S
3024E
3028E
3024M
3028M





AUDIO AMPLIFIER

UK	Scandinavia
RF340	RF320
342	322
344	324

TOSHIBA 15W SOUND

PHILIPS 15W SOUND

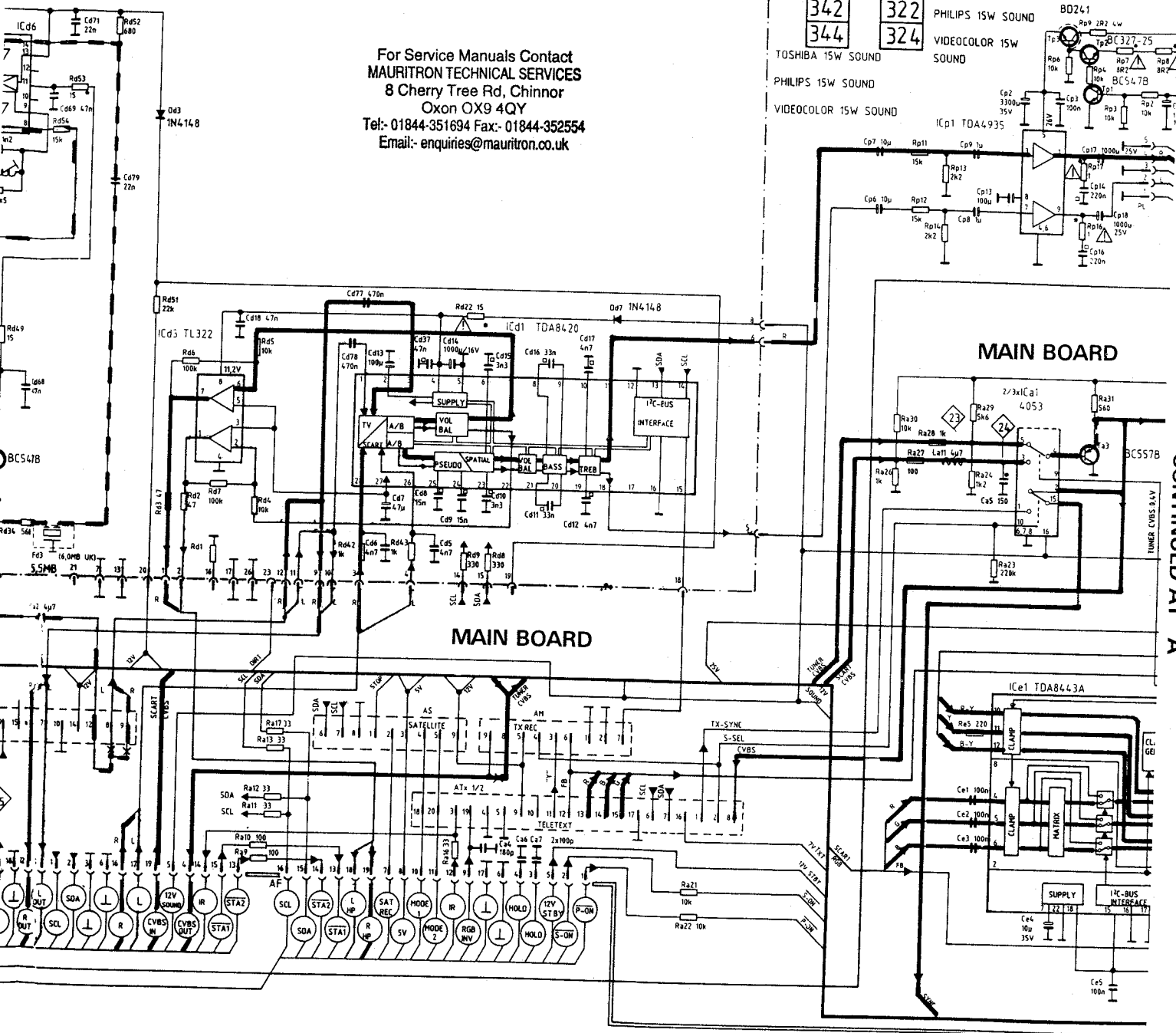
VIDEOCOLOR 15W SOUND

TOSHIBA 15W SOUND

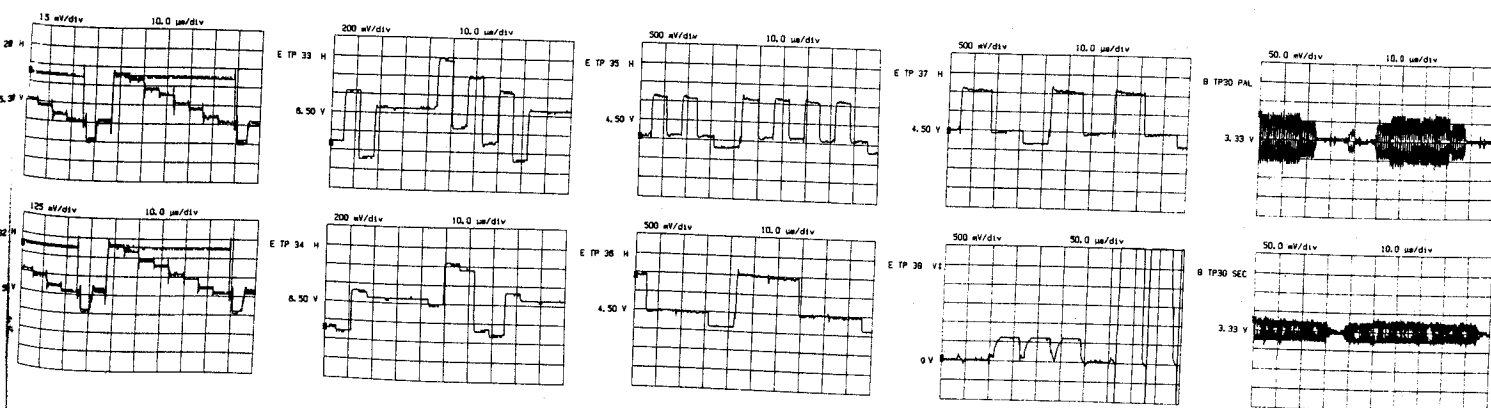
PHILIPS 15W SOUND

VIDEOCOLOR 15W

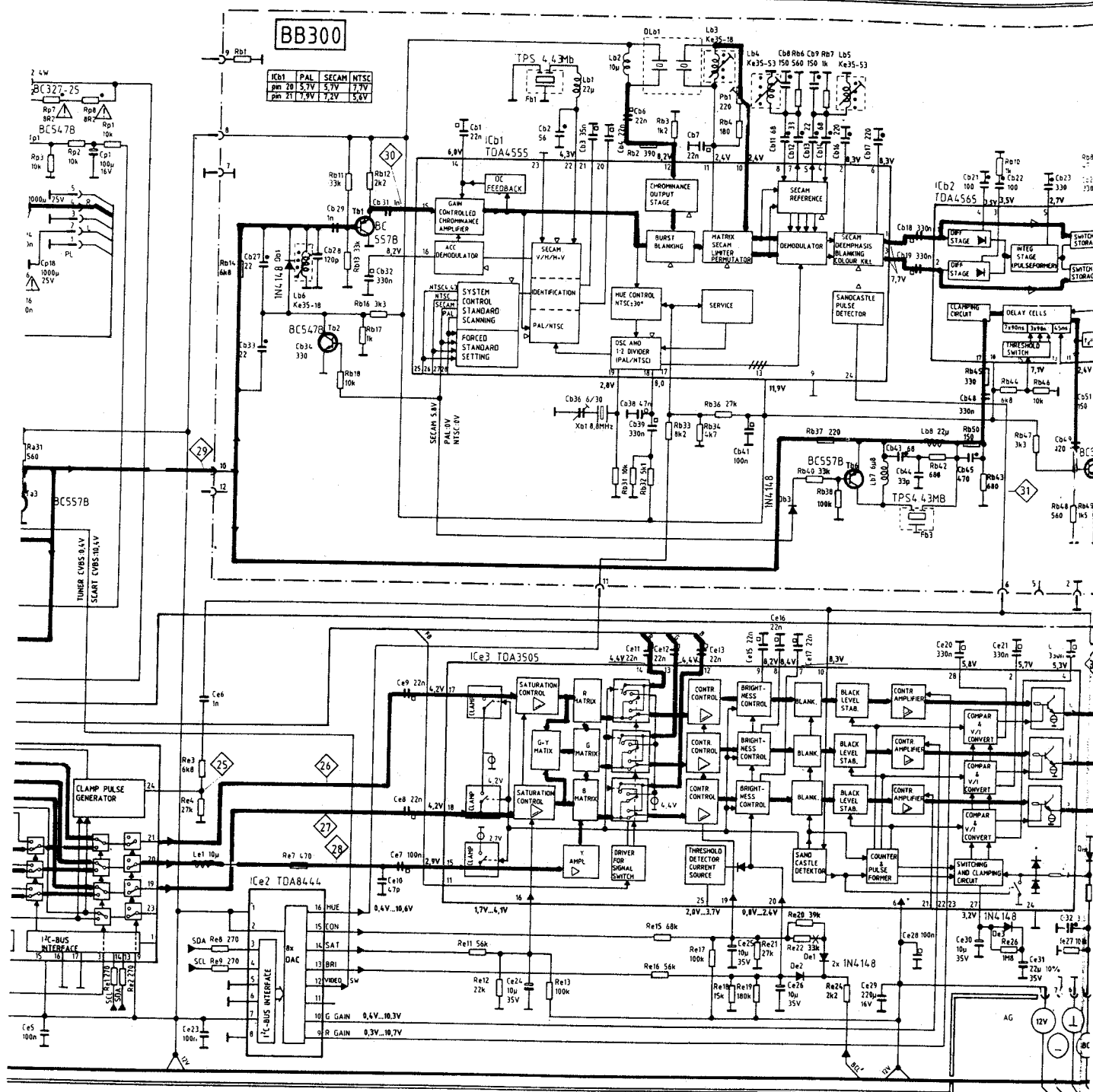
SOUND



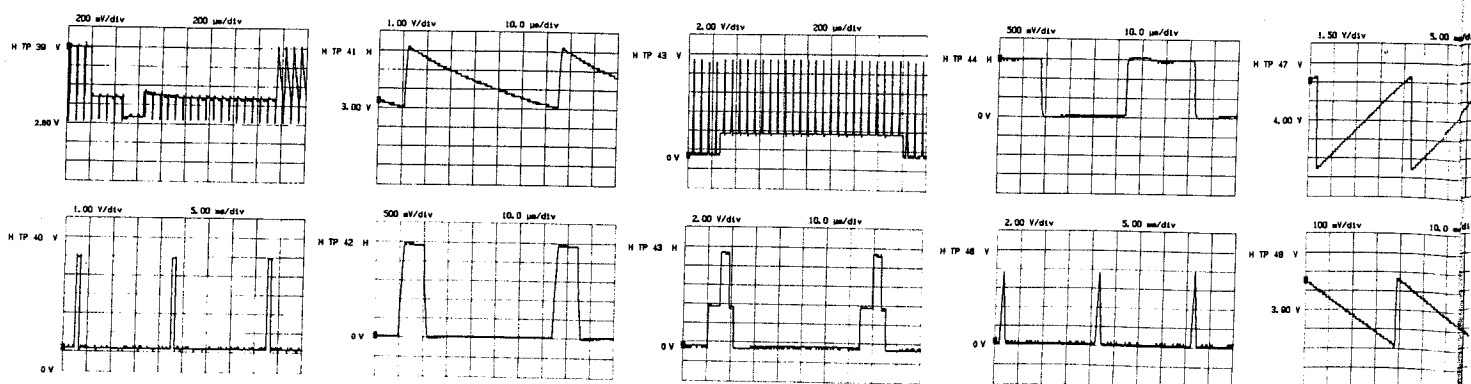
RGB PROCESSOR



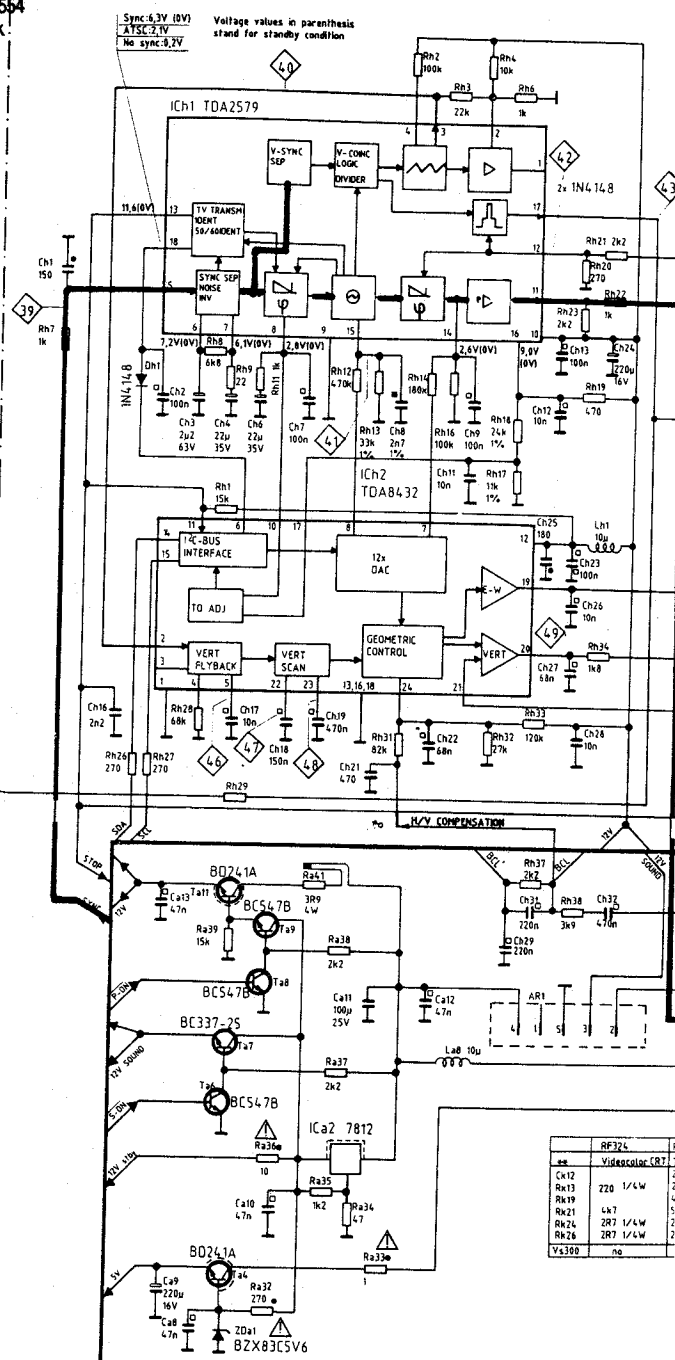
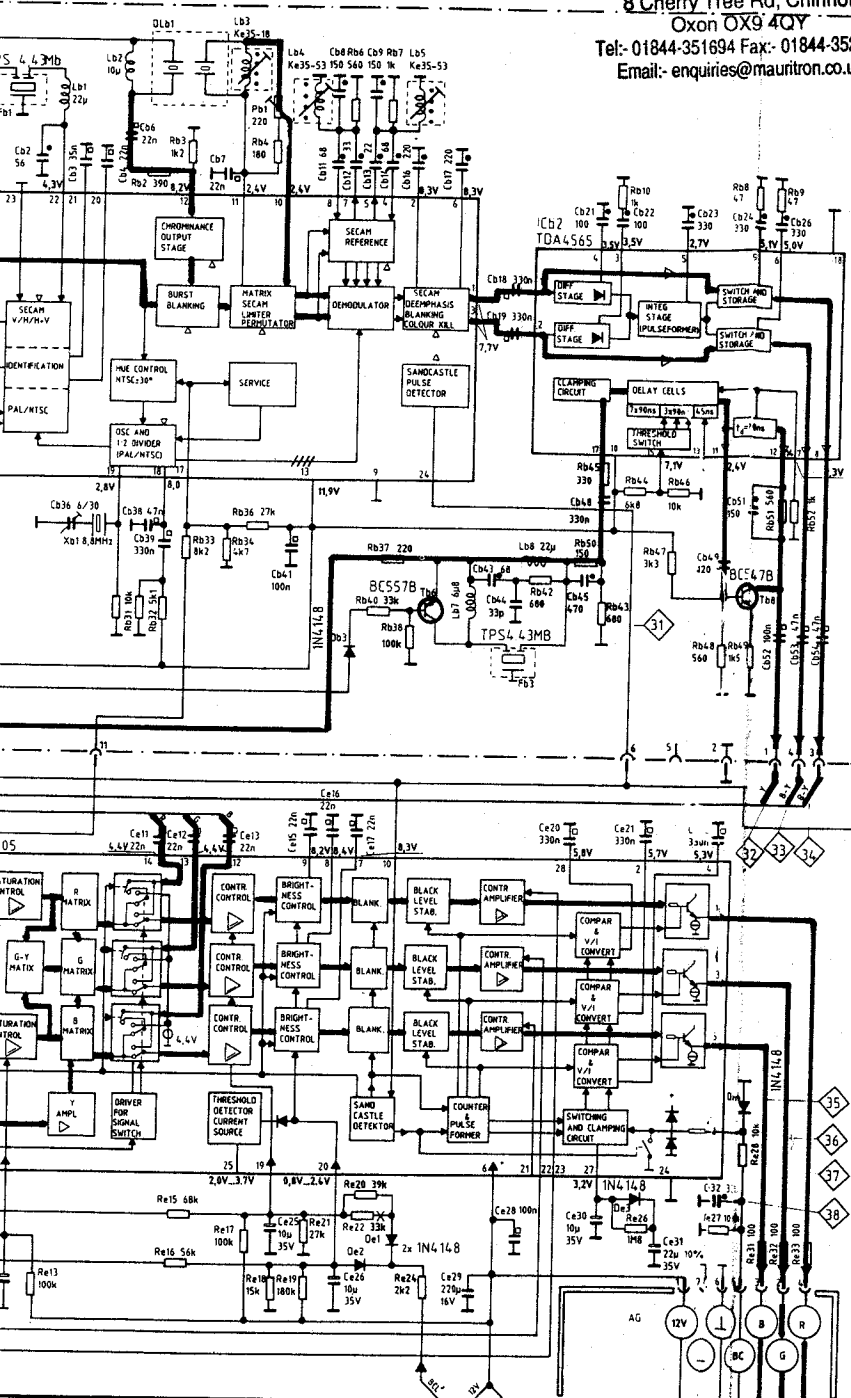
"A"



RGB PROCESSOR

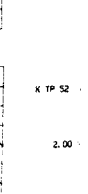
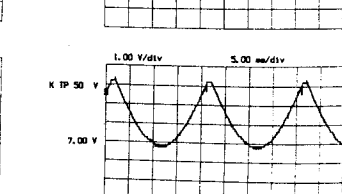
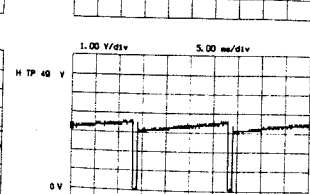
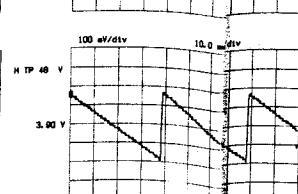
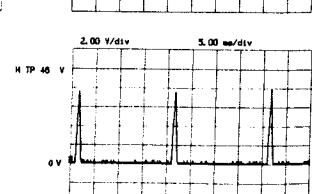
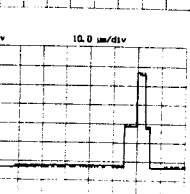
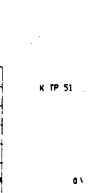
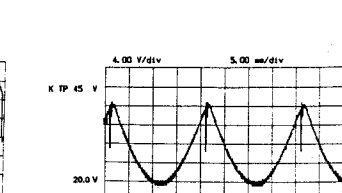
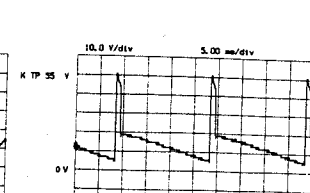
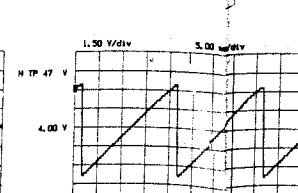
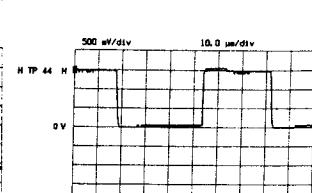
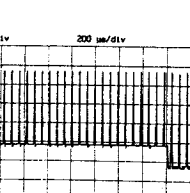


For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauritron.co.uk

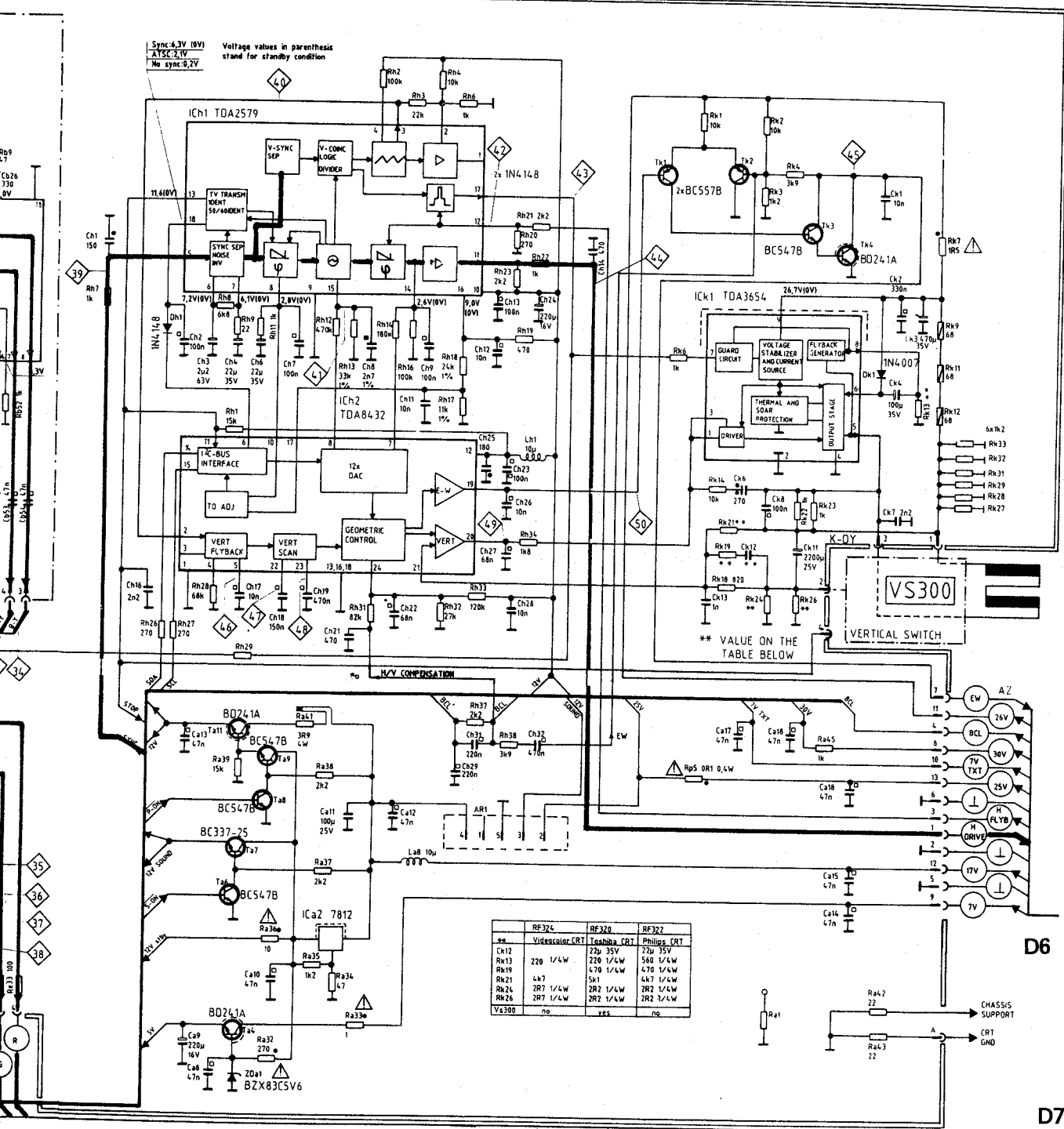


	RF324	1
==	Videorecolor (RT)	
Ck12		2
Rk13	220 1/4W	2
Rk19		4
Rk21	4k7	5
Rk24	2R7 1/4W	2
Rk26	2R7 1/4W	2

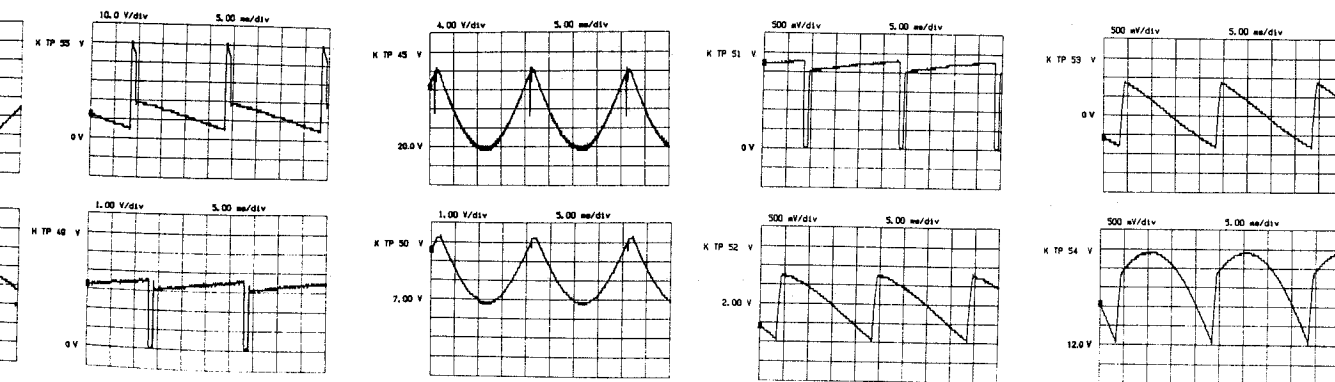
PROCESSOR



MAIN BOARD



MAIN BOARD



MOUNTING INSTRUCTIONS OF S-VHS

S-VHS CONNECTION KIT

(Order No.: 03500800)

Contents

The connection kit includes following components:

Item	Description	Order No
Colour decoder module		BB 303
S-VHS connection unit		LL 302
S-VHS adapter		96006355
3-pole PCB-connector		51005731
IC11	X2402P	44002625
CI15	1 nF, 20%, 63V	23030507
RI52	1 kΩ, 5%, 0,25W	12114908

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

Mounting instructions

- Switch on the receiver and set it to the service mode. Ask the version number of the NVM (Non-volatile memory IC11) by pressing the P/C button.
 - Version 02: the SVHS-function is not programmed
 - Version 03: the SVHS-function is already programmed
 If the version number is 02, perform the mounting according to points 2...9
 If the version number is 03, perform the mounting according to points 3...6 and 9
- Read the registered values of all service adjustments made using the remote control hand unit (see service manual of the 3000 series TV receivers) and write them down on the paper.
 Switch off the receiver and remove the back cover.
- Remove the connector unit LL300 or LL310 and replace it with the connector unit LL302 supplied in the kit.
- Remove the colour decoder module BB300 or BB301 and replace it with the module BB303 supplied in the kit.
- If needed, mount the 3-pole PCB-connector supplied in the kit into place reserved for the 9-pole AS-connector. The 3-pole connector must be mounted so that only pins AS 3, 4, and 5 are used (see Fig. 1)
- Connect the cable connectors BL and AS as shown in Fig. 2.
- Remove the control unit Fc of the receiver and check the etching code of the board. If the etching code is 90505065 replace the components IC11, CI15 and RI52 with the corresponding components supplied in the kit (IC11 = X2402P, CI15 = 1 nF, RI52 = 1 k). Fit the resistor RI52 to the print side so that the end previously connected to pin 7 of the microprocessor (IC12) becomes connected to pin 5. Mount the control unit back to its place. The control unit Fc with etching code 90505452 contains the above-mentioned changes.
- Switch on the receiver and set it to the service mode. Enter and store the above-mentioned (see item 2) control values into the new NVM-memory (IC11) using the remote control hand unit.
- Perform the configuration and store it into memory. Reset the receiver using the mains switch.

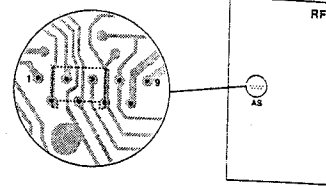


Fig. 1

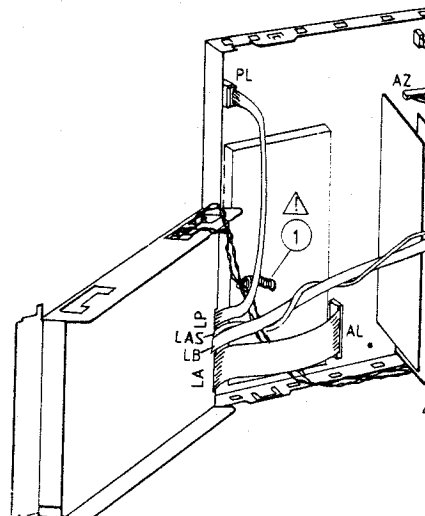
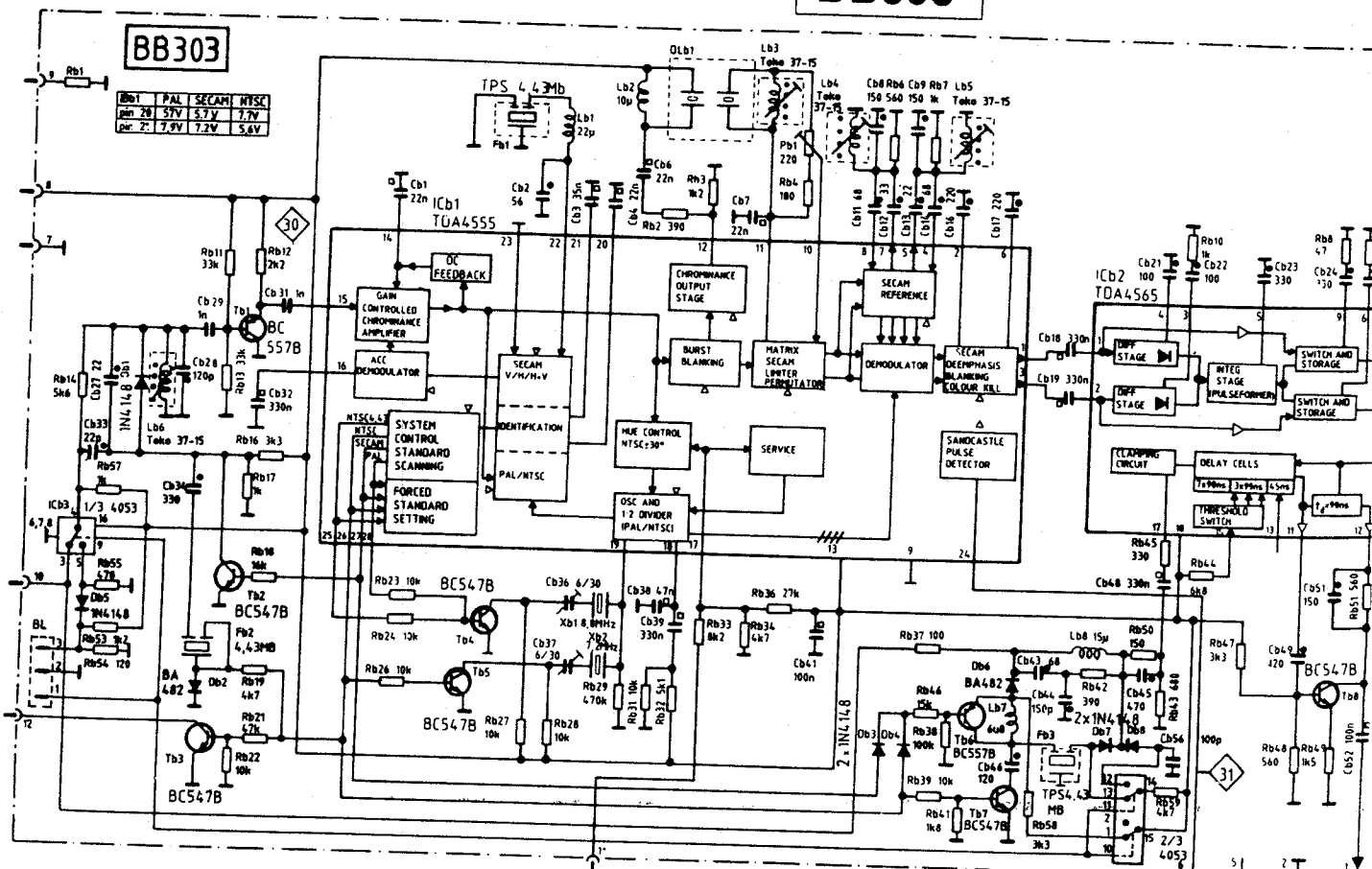


Fig. 2

COLOUR DECODER MODULE

BB303



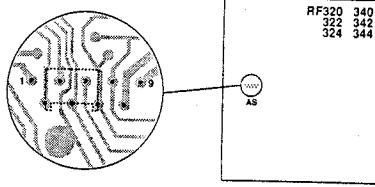


Fig. 1

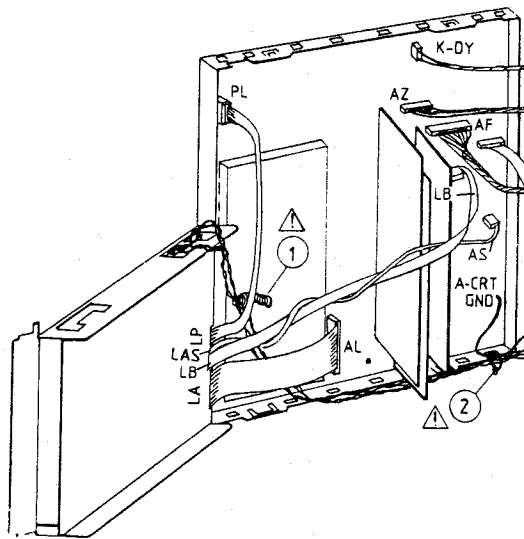


Fig. 2

(Non-volatile

(see service

supplied in the

3 supplied in

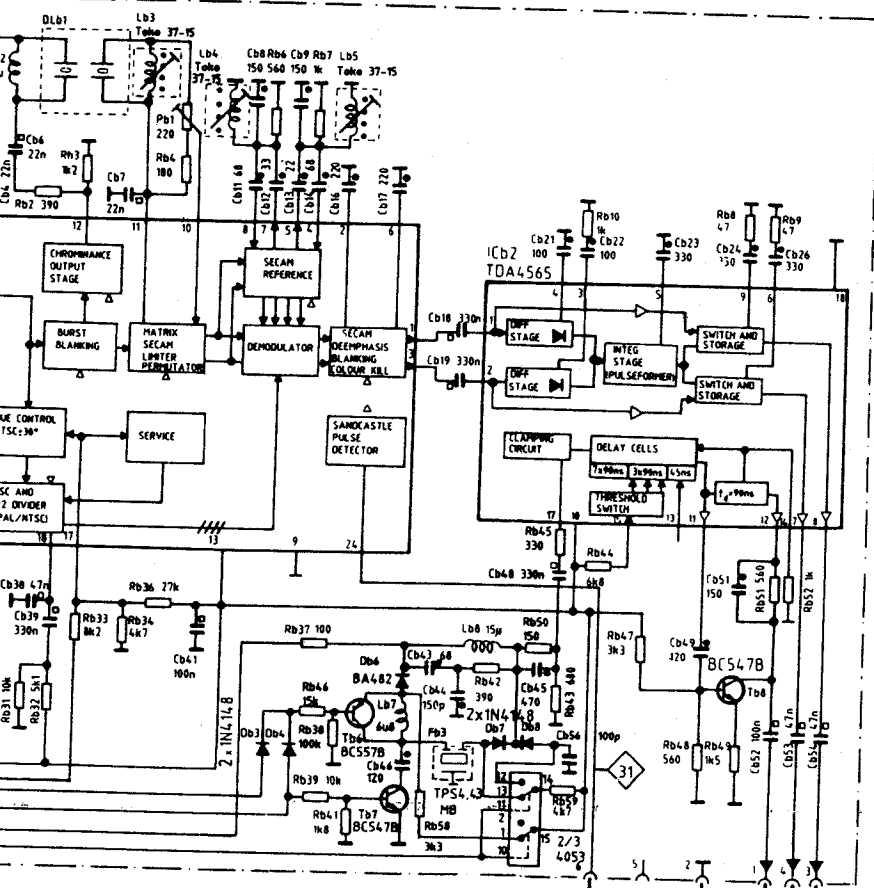
9-pole AS-
(see Fig. 1)atching code
nts supplied
at the end
at the control
-mentioned

(see item 2)

ch.

LE

BB303



SERVICE ADJUSTMENTS

B1. Reference oscillator

Connect a colour bar test signal. Connect pin 17 of ICb1 to the ground. Adjust PAL colours straight with Cb36. Remove the link and check that the colours stay on their own places. Make the same adjustments to the 3.58 MHz NTSC colours with Cb37 (only in module BB303).

B2. PAL-delay demodulator

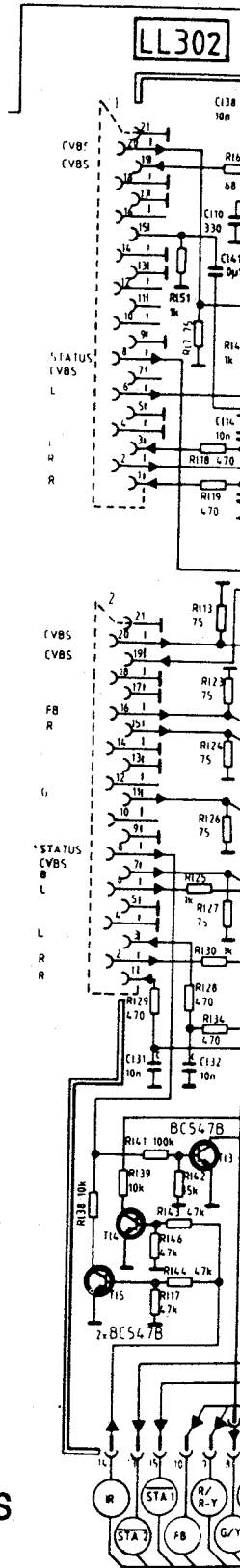
Connect a colour test chart. Eliminate the "Venetian blind effect" on the colour fields +V and ±U with Pb1, likewise on the colour field +U with Lb3. Repeat the procedure if necessary.

B3. SECAM colour filter

Connect SECAM signal to the aerial inlet. Connect oscilloscope to test point 30 and adjust Lb6 so that pattern is equal.

B4. SECAM demodulator

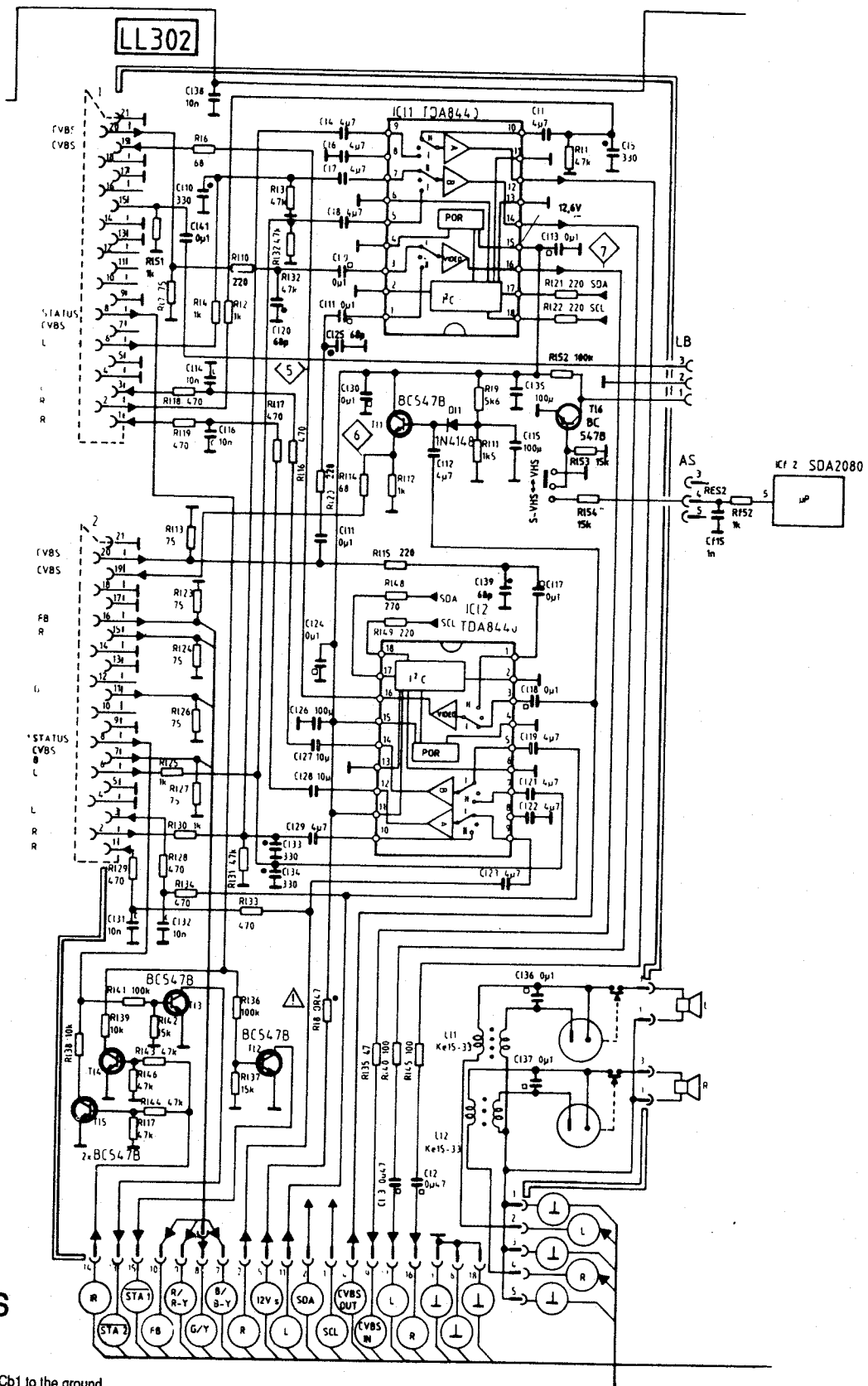
Connect SECAM signal to the aerial inlet. Connect the oscilloscope to pins 1 and 3 of ICb1. Tune with Lb4 and Lb5 test chart so that uncoloured parts are uncoloured. Remove the measuring cables. Fine-tune colours equal and edges of colours sharp with Lb6.



CONNECTOR UNIT

LL302

For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
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Oxon OX9 4QY
Tel:- 01844-351694 Fax:- 01844-352554
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SERVICE ADJUSTMENTS

B1. Reference oscillator

Connect a colour bar test signal. Connect pin 17 of ICb1 to the ground. Adjust PAL colours straight with Cb36. Remove the link and check that the colours stay on their own places. Make the same adjustments to the 3.58 MHz NTSC colours with Cb37 (only in module BB303).

B2. PAL-delay demodulator

Connect a colour test chart. Eliminate the "Venetian blind effect" on the colour fields +V and ±U with Pb1, likewise on the colour field +U with Lb3. Repeat the procedure if necessary.

B3. SECAM colour filter

Connect SECAM signal to the aerial inlet. Connect oscilloscope to test point 30 and adjust Lb6 so that pattern is equal.

B4. SECAM demodulator

Connect SECAM signal to the aerial inlet. Connect the oscilloscope to pins 1 and 3 of ICb1. Tune with Lb4 and Lb5 test chart so that uncoloured parts are uncoloured. Remove the measuring cables. Fine-tune colours equal and edges of colours sharp with Lb6.

MATRIX

ITEM

SEE MODEL

Power Supply/Deflection

PW300/310/320

VHF Sub Mod 4110

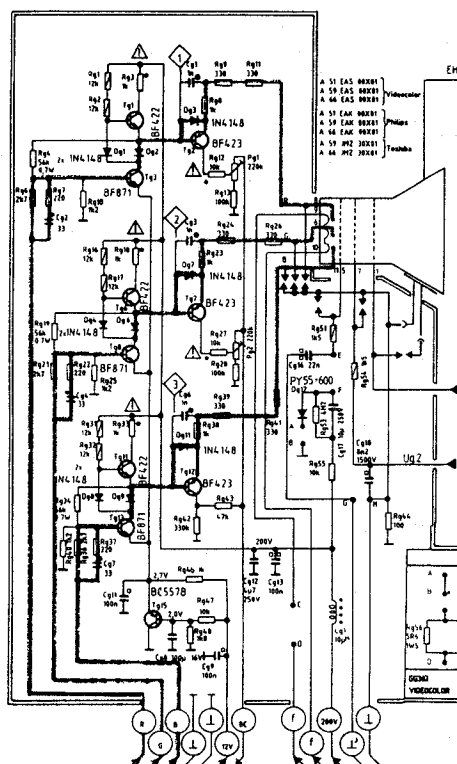
UHF Sub Mod 4110

FINLUX 3021

FINLUX 3021

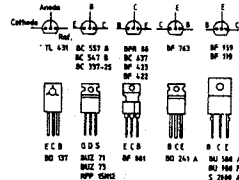
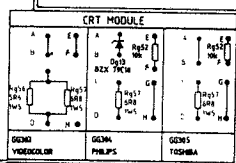
FINLUX 3021

CRT MODULE

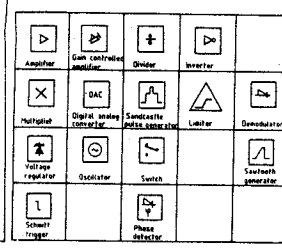
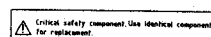
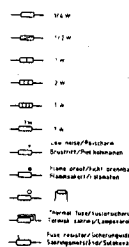


- **B/Y** = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- **G/Y** = GREEN OR G-Y COLOUR DIFFERENCE SIGNAL
- **R/Y** = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- **FB** = FAST BLANKING SIGNAL
- **R OUT** = RIGHT AUDIO CHANNEL
- **L OUT** = LEFT AUDIO CHANNEL
- **SCL** = SERIAL CLOCK
- **SDA** = SERIAL DATA
- **R IN** = RIGHT AUDIO CHANNEL
- **L IN** = LEFT AUDIO CHANNEL
- **VB_S IN** = VIDEO SIGNAL
- **VB_S OUT** = VIDEO SIGNAL
- **RC** = REMOTE CONTROL
- **STA** = STATUS FROM SCART 1
- **STA** = STATUS FROM SCART 2

- ① **HP** = LEFT AUDIO CHANNEL FOR HEADPHONES
- ② **R HP** = RIGHT AUDIO CHANNEL FOR HEADPHONES
- ③ **SAT COPY** = SATELLITE COPYING
- ④ **MODE 1** = MODE INFORMATION 1
- ⑤ **MODE 2** = MODE INFORMATION 2
- ⑥ **RGB INV** = RGB INVERTING
- ⑦ **HOLD** = PROCESSOR DISCONNECTING FROM I²C-BUS
- ⑧ **P-ON** = PICTURE ON DRIVING VOLTAGE 12 V
- ⑨ **S-ON** = SOUND ON DRIVING VOLTAGE 12 V
- ⑩ **BC** = BLACK CURRENT
- ⑪ **EW** = EAST-WEST RASTER CORRECTION
- ⑫ **BCL** = BEAM CURRENT LIMITING VOLTAGE
- ⑬ **TV TX1** = SUPPLY VOLTAGE FOR TELETEXT MODULE
- ⑭ **H FLYB** = LINE FLYBACK
- ⑮ **H DRIVE** = DRIVE PULSES FOR LINE OUTPUT STAGE
- ⑯ **I** = FILAMENT VOLTAGE FOR CRT



Catalog	Polypropylene	Polyester Polycarbonate	Polyethylene	Notes can be combined when necessary
-	-	-	-	
AJ-100V	AJ-100V	100v	100v	Paper capacitor
-	-	-	-	MV -
40-250V	40-250V	150V	250V	Electron 18V 1500V
-	-	-	-	Ferrite capacitor
100-150V	-	100 v	100 v	Spice capacitor
-	-	-	-	9
M ⁺ Case	-	-	-	Sprayed capacitors T capacitors
-	-	-	-	-



RN 300

fig. 2

1. a) When mounting the NICAM-sound module to receiver containing the LF sound module (DD310, DD311, DD312, DD313, DD314, DD320), cut off the foils on DD-module as shown in fig 1.

1. b) When mounting the NICAM-module to receiver containing the German A2 standard stereo sound module, cut off the foils on NICAM module as shown in fig. 2.

2. If the RF-block doesn't contain ready-mounted pin contacts AR2 and AR3, mount the contacts as shown in fig. 3.

3. Cut off the foils on RF-block as shown in fig. 3.

4. Mount the NICAM-module on contacts AR2 and AR3.

5. Make an isolating cover on Cd 14 (DD-module) using plastic tape or tube.

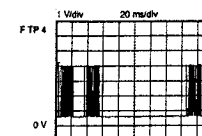
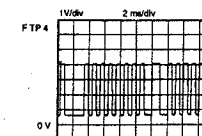
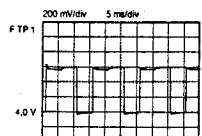
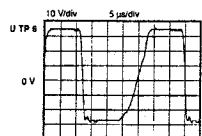
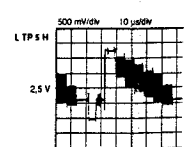
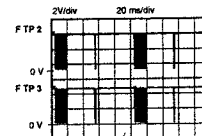
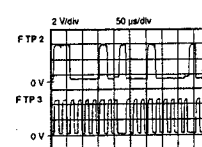
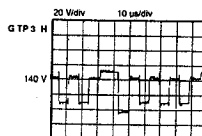
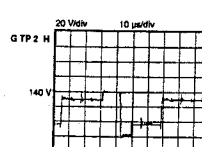
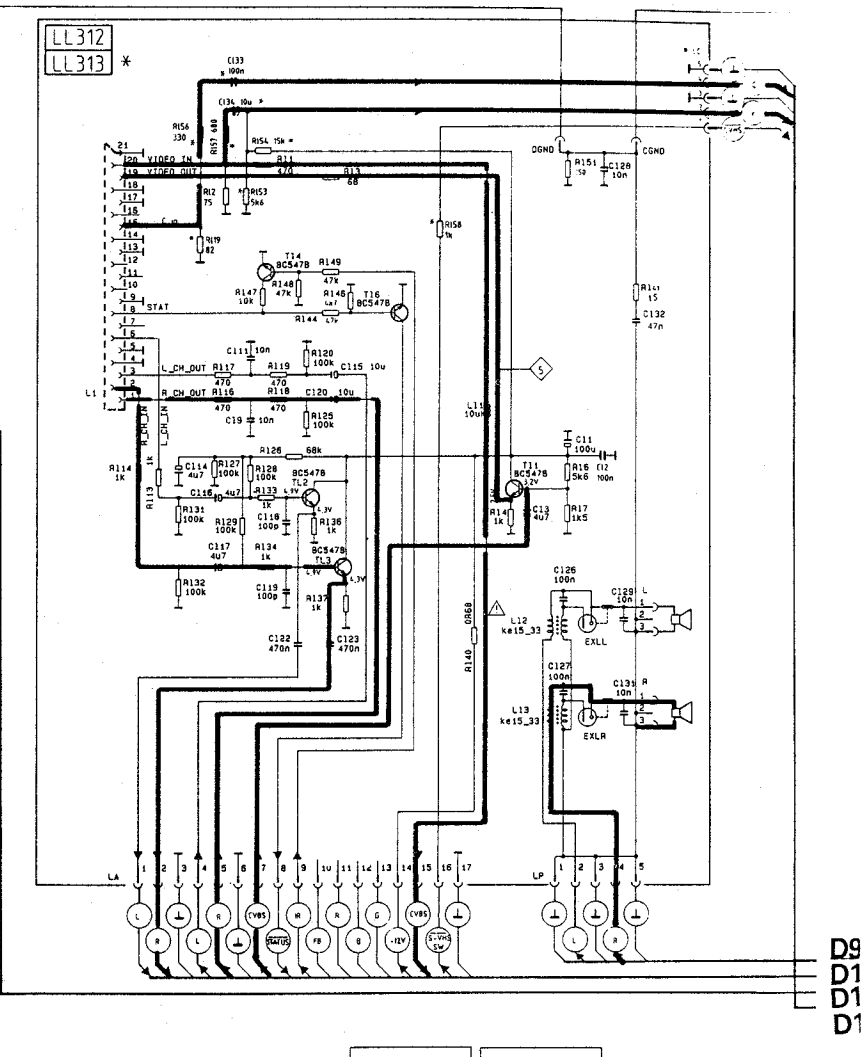
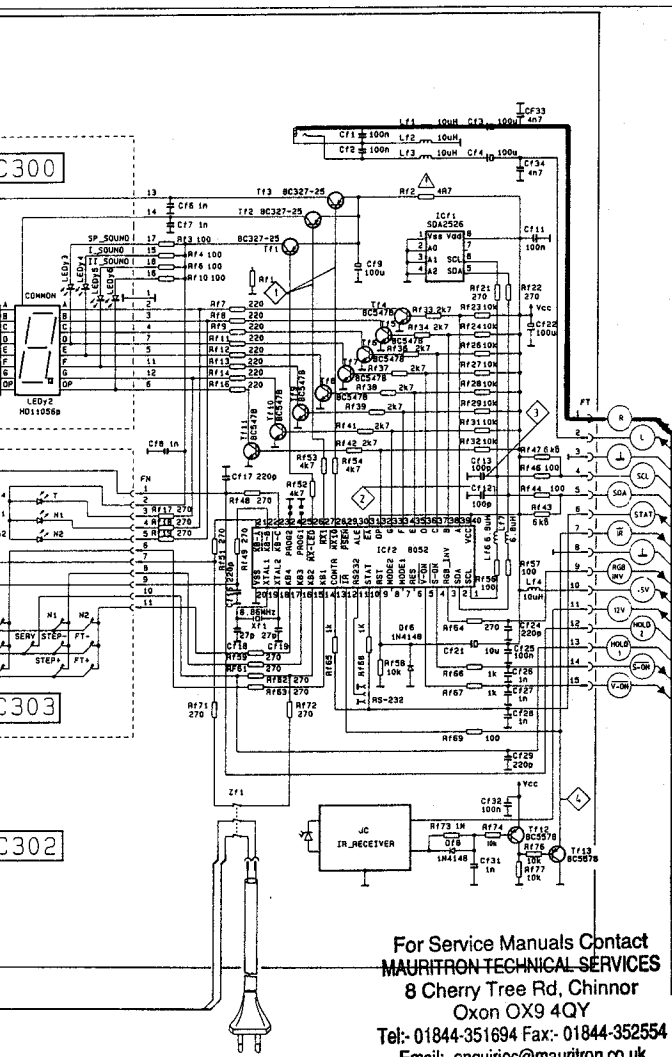


fig. 3

CONTROL UNIT

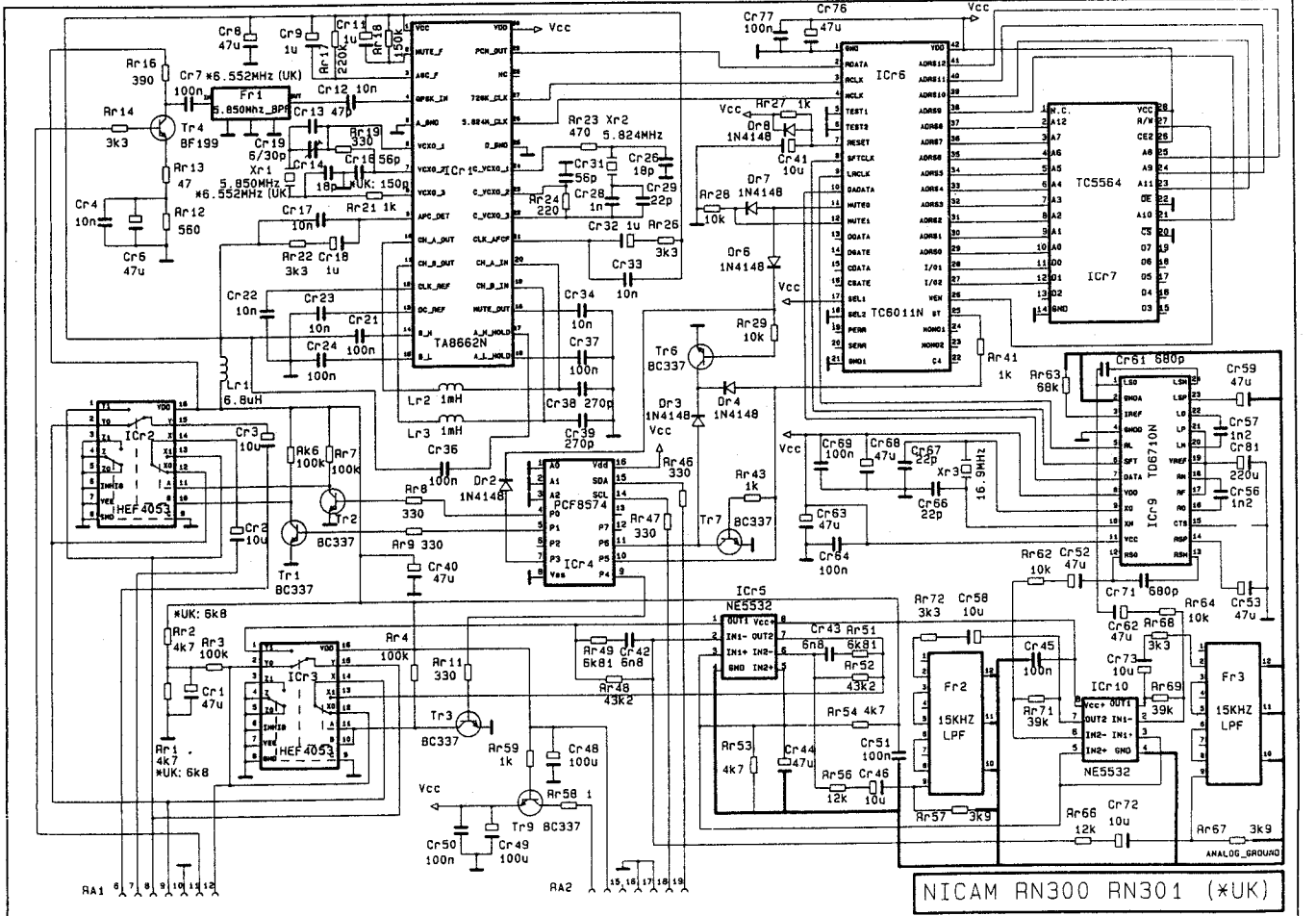
CONNECTOR UNIT



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MAURITRON TECHNICAL SERVICES
8 Cherry Tree Rd, Chinnor
Oxon OX9 4QY
Tel: 01844-351694 Fax: 01844-352554
Email: enquiries@mauritron.co.uk

NICAM MODULE

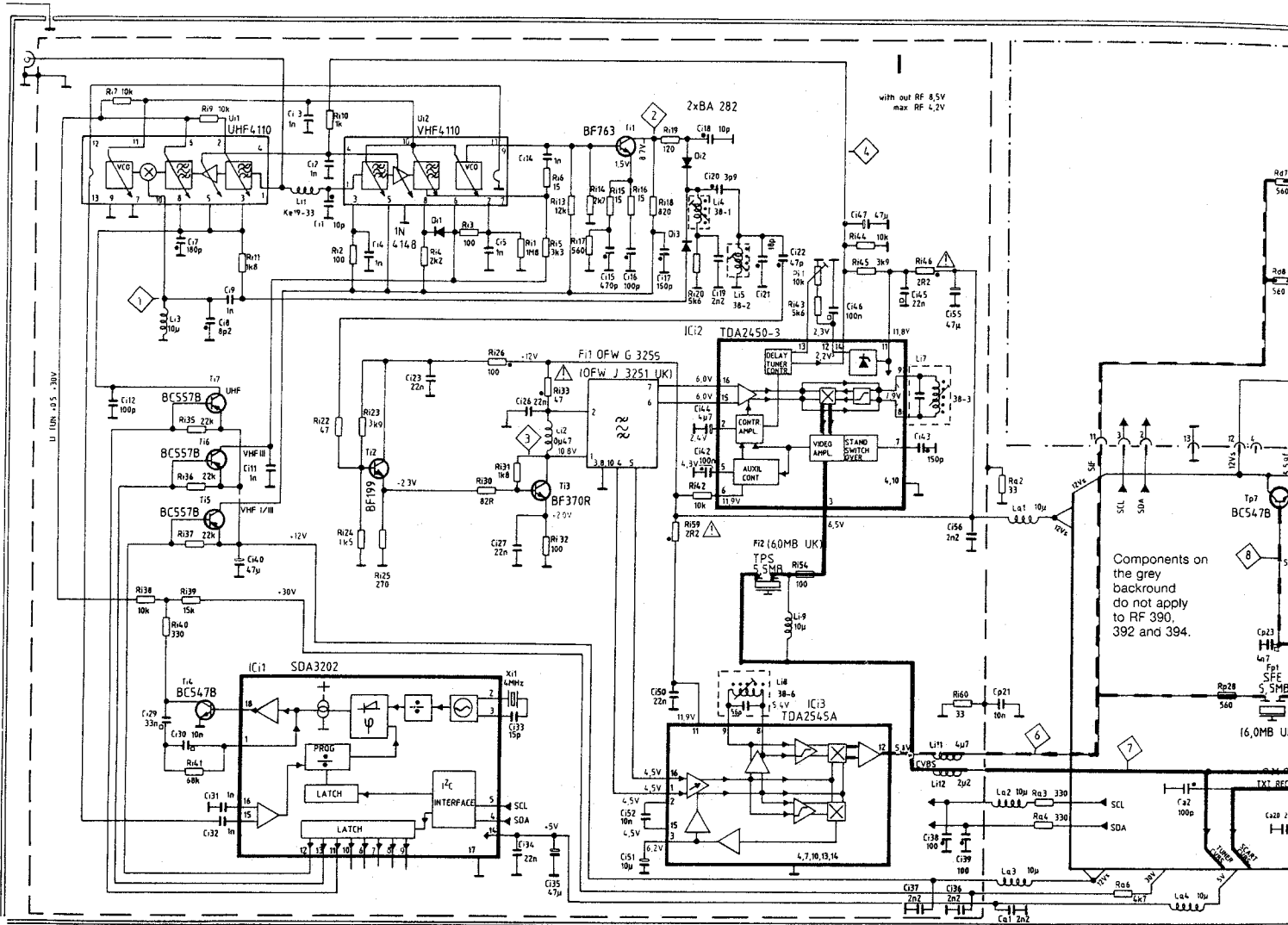
RN300 RN301



NICAM RN300 RN301 (*UK)

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 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel:- 01844-351694 Fax:- 01844-352554
 Email:- enquiries@mauritron.co.uk

TUNER UNIT

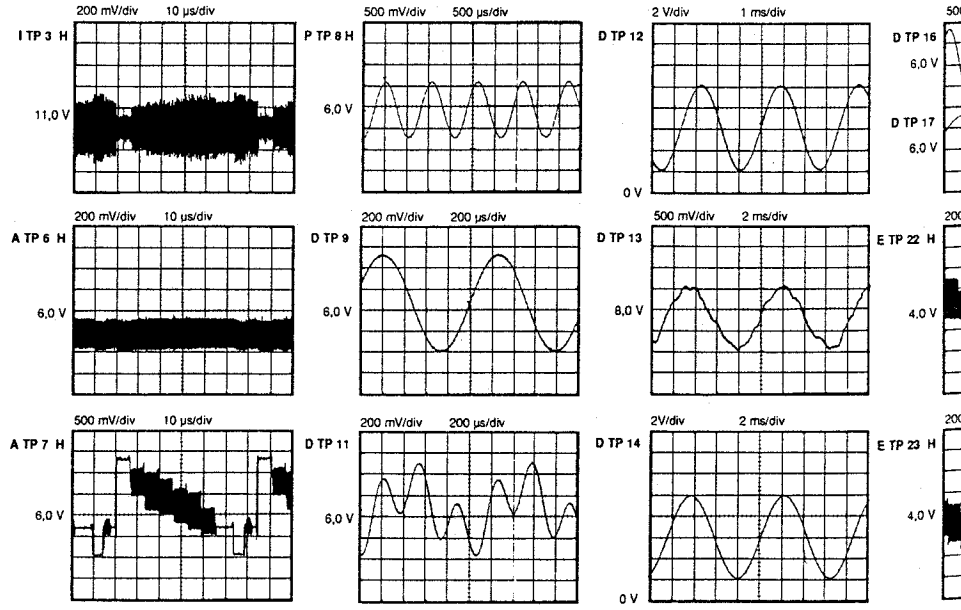


Components on the grey background do not apply to RF 390, 392 and 394.

D9
D10
D11
D12

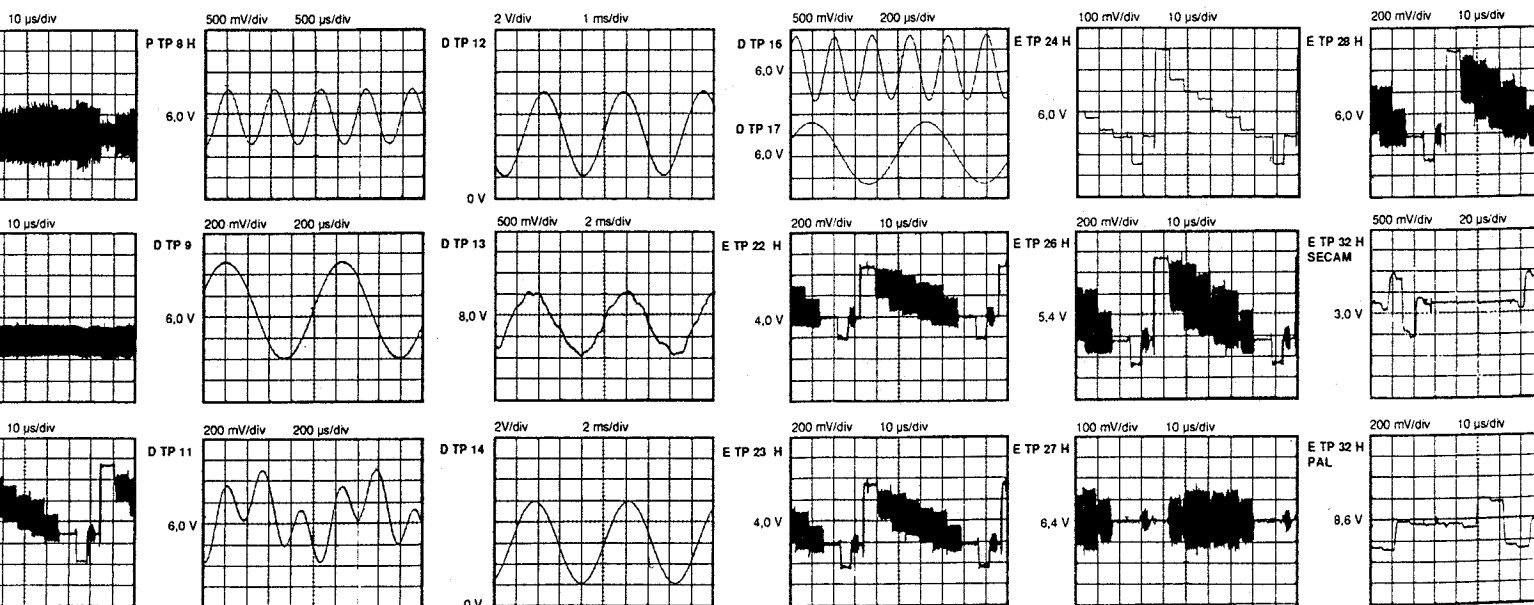
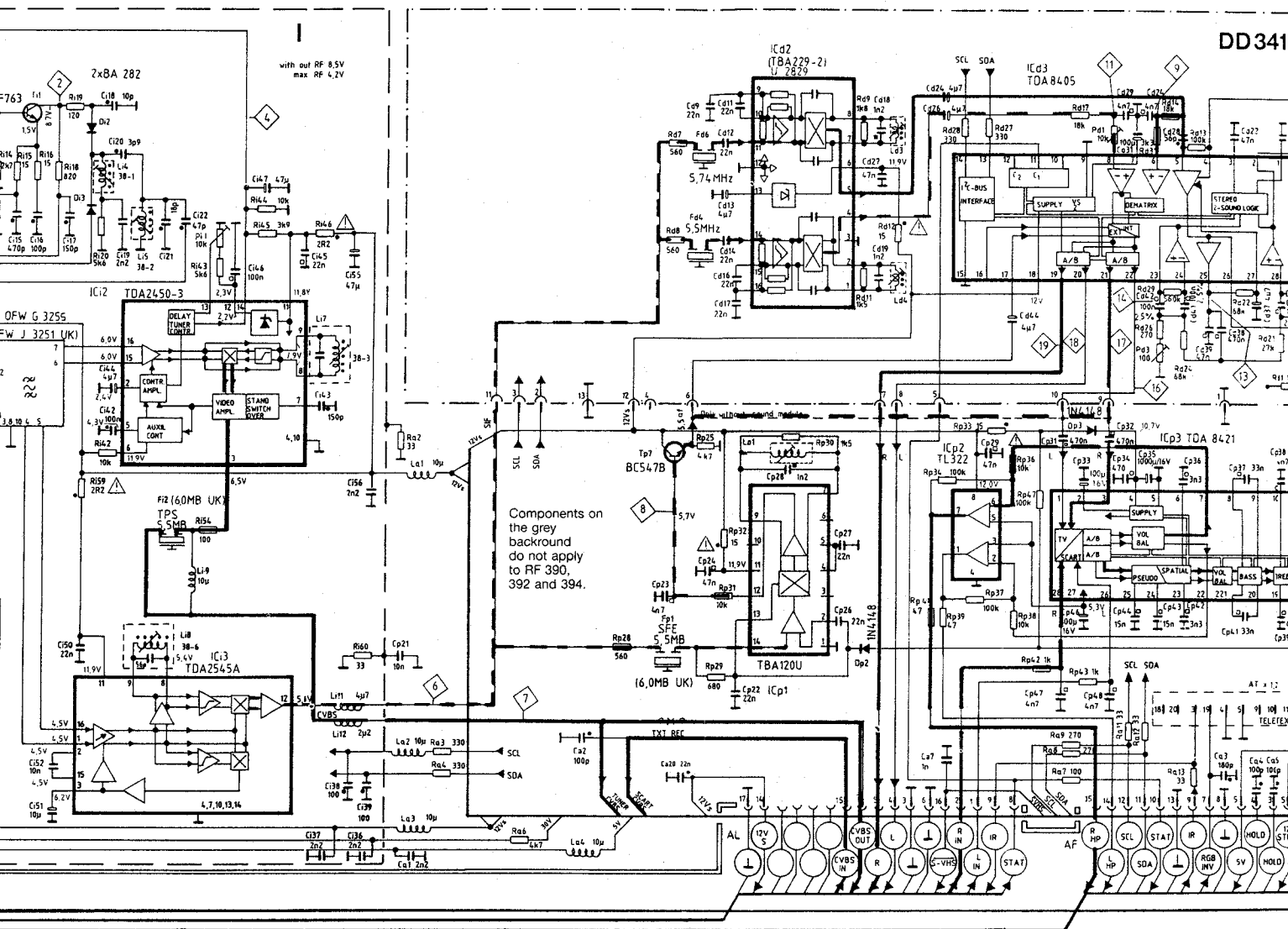
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3628E	1AC	3628E	1BC
3624E	1AC	3624E	1BC
3628M	1AC	3628M	1BC
3624M	1AC	3624M	1BC
3628P	1AC	3628P	1BC
3624P	1AC	3624P	1BC
3621F	1AC	3621F	1BC

TYPES		MODELS	
3624V	1GC	3624V	1DC
3628E	1GC	3628E	1DC
3624E	1GC	3624E	1DC
3628M	1GC	3628M	1DC
3624M	1GC	3624M	1DC
3628P	1GC	3628P	1DC
3624P	1GC	3624P	1DC
3621F	1GC	3621F	1DC



SOUND MODULE

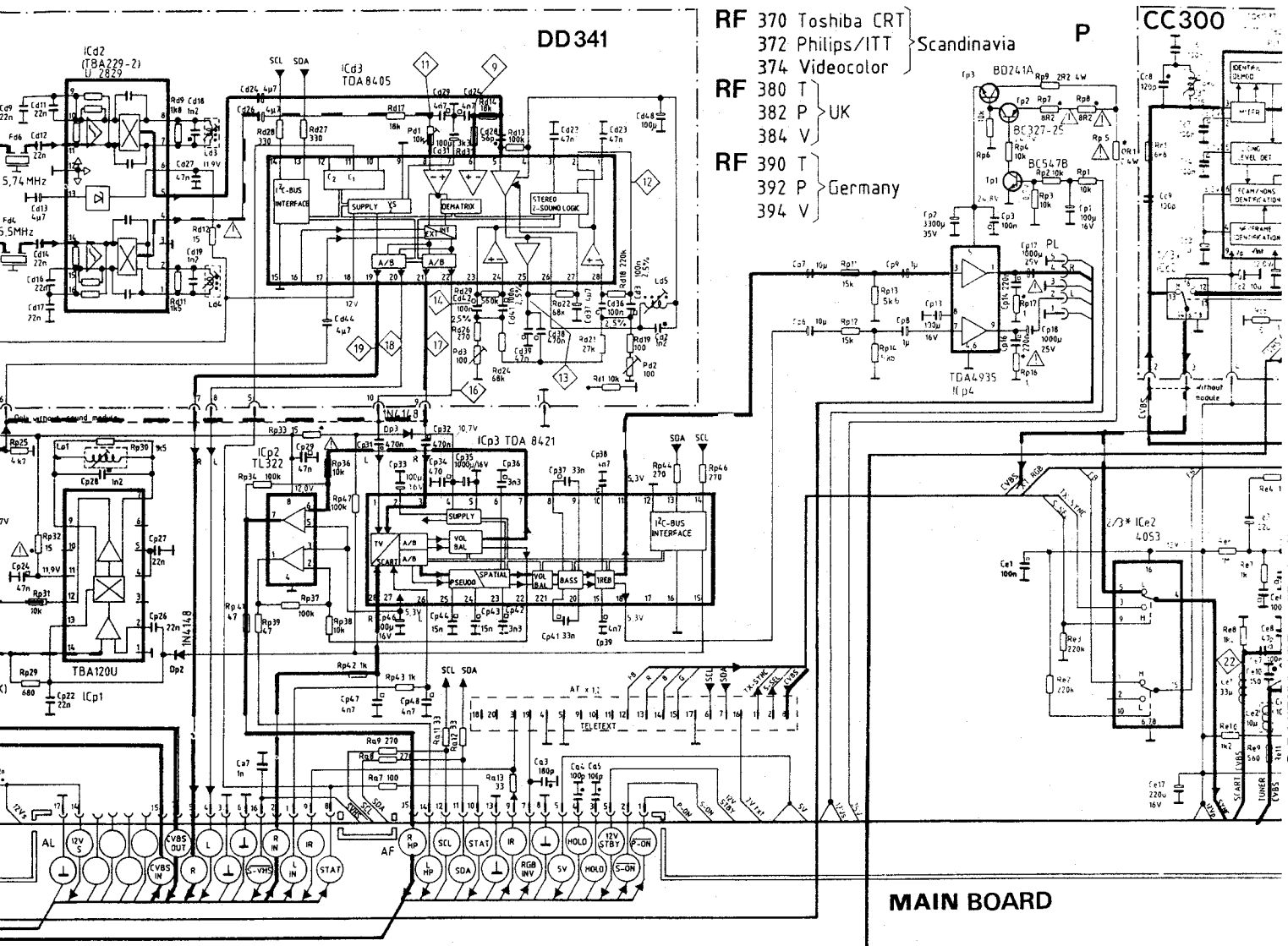
DD 341



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 Email:- enquiries@mauritron.co.uk

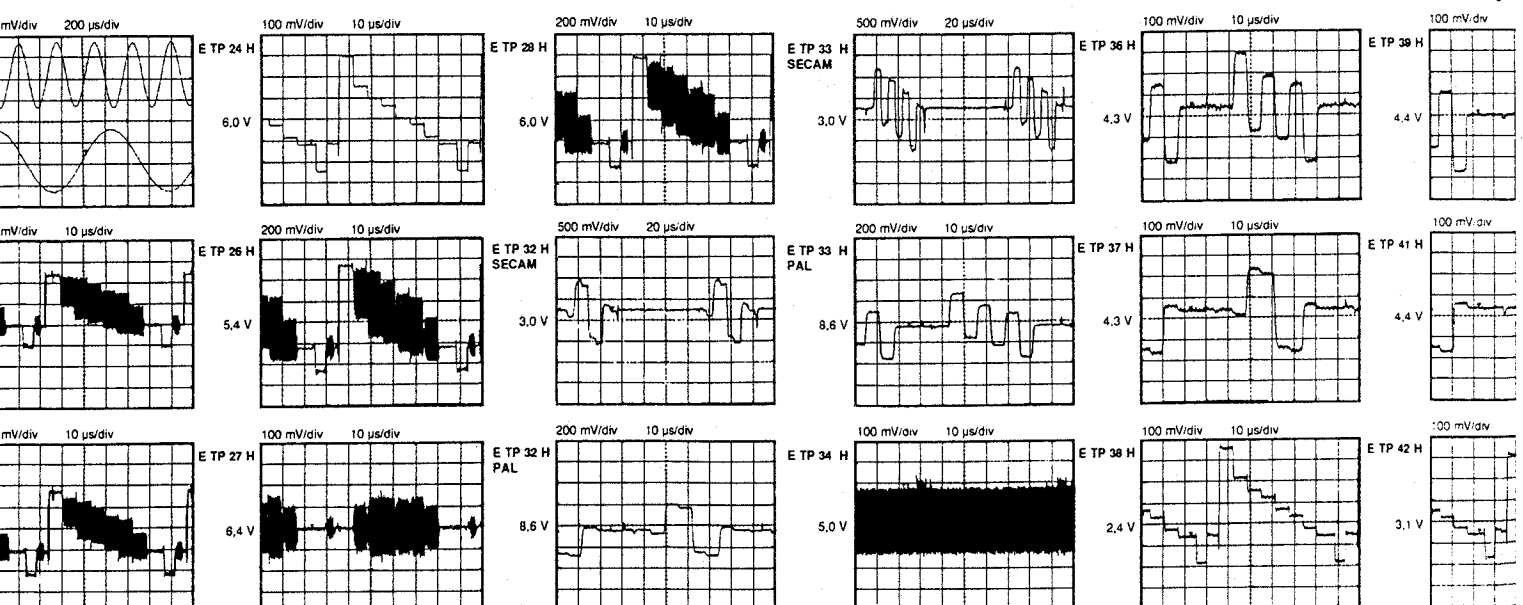
SOUND MODULE

AUDIO AMPLIFIER



RF 370 Toshiba CRT
 372 Philips/ITT Scandinavia
 374 Videocolor
 RF 380 T
 382 P UK
 384 V
 RF 390 T
 392 P Germany
 394 V

MAIN BOARD

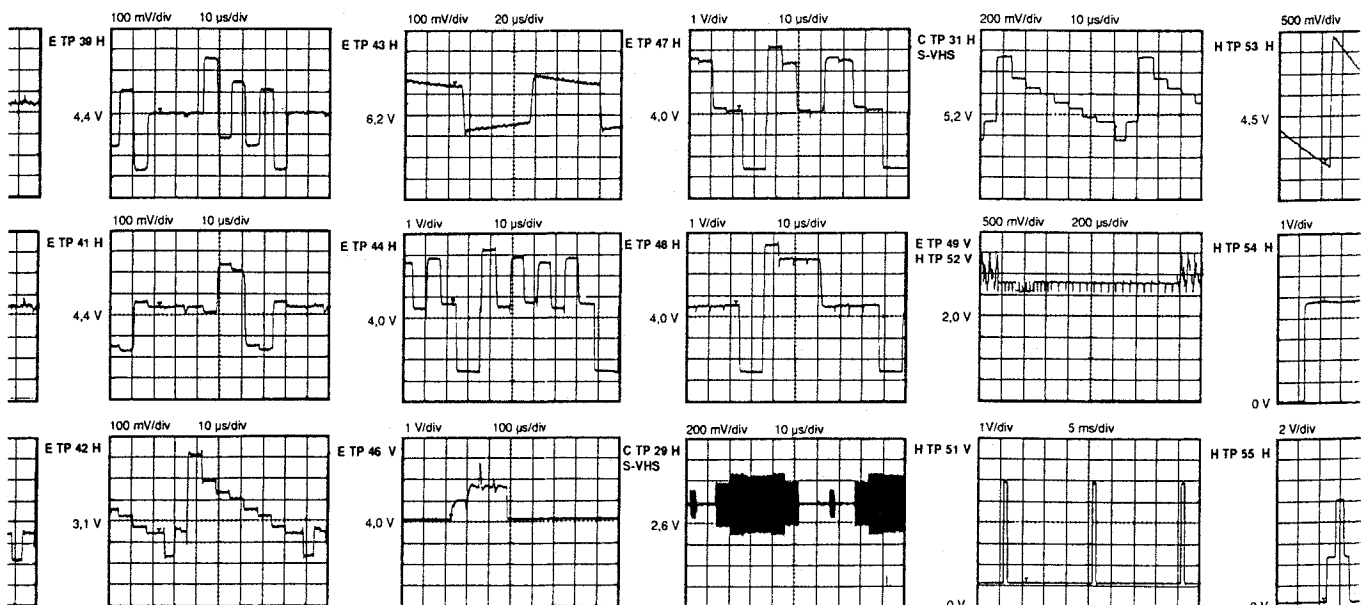
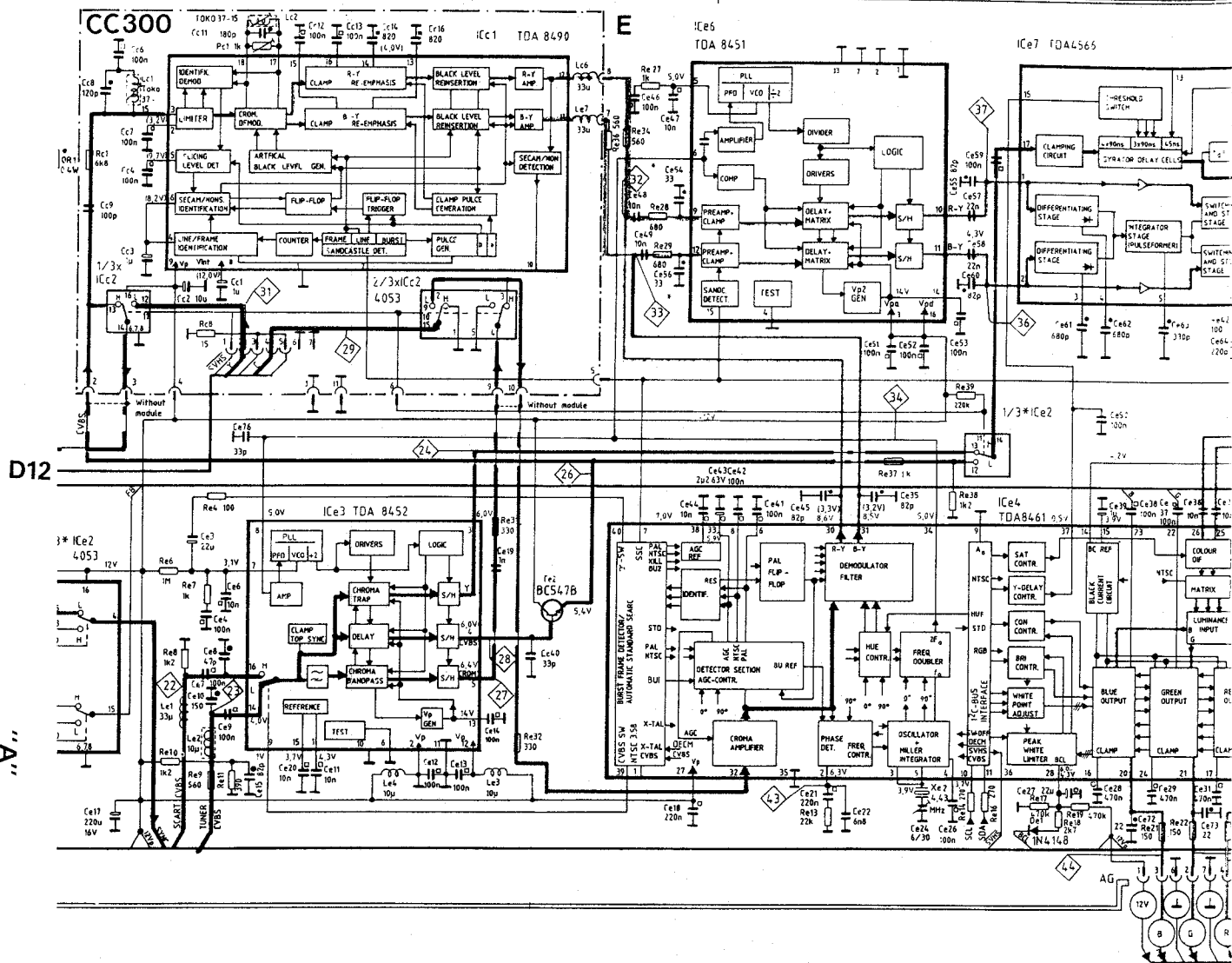


CONTINUED AT "A"

SECAM MODULE

LUMINANCE AND CHROMINANCE

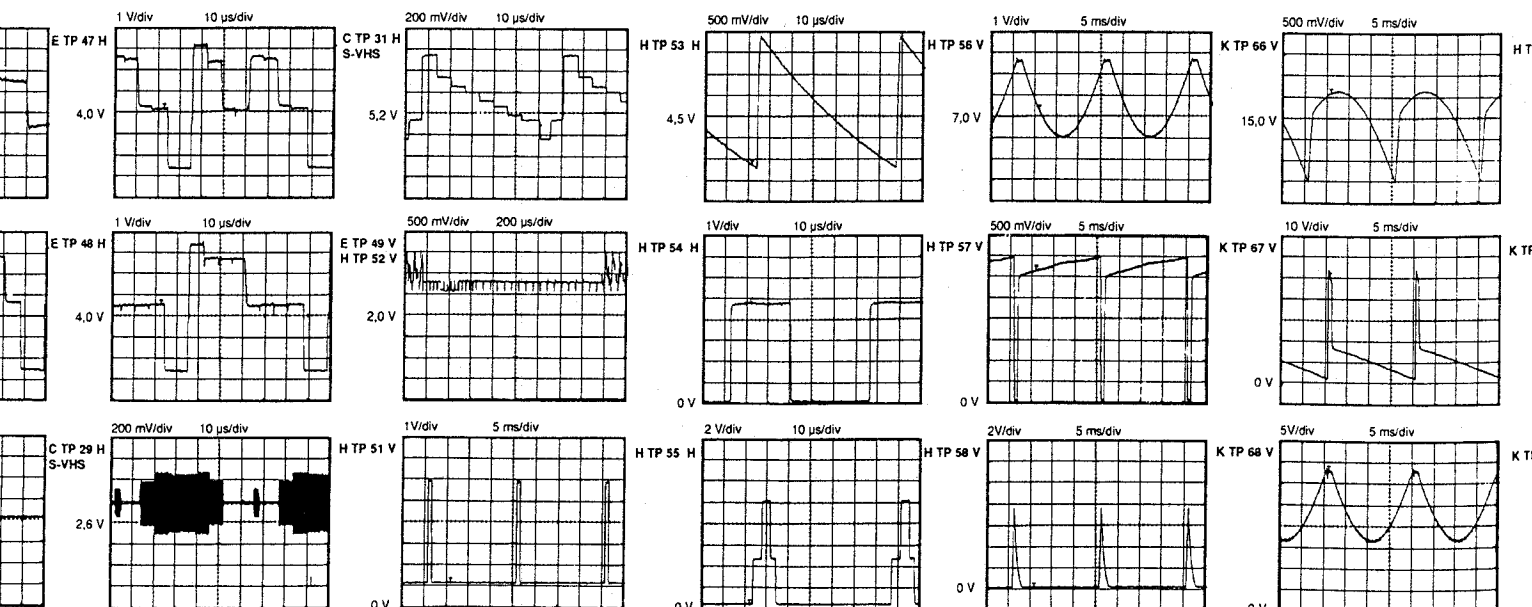
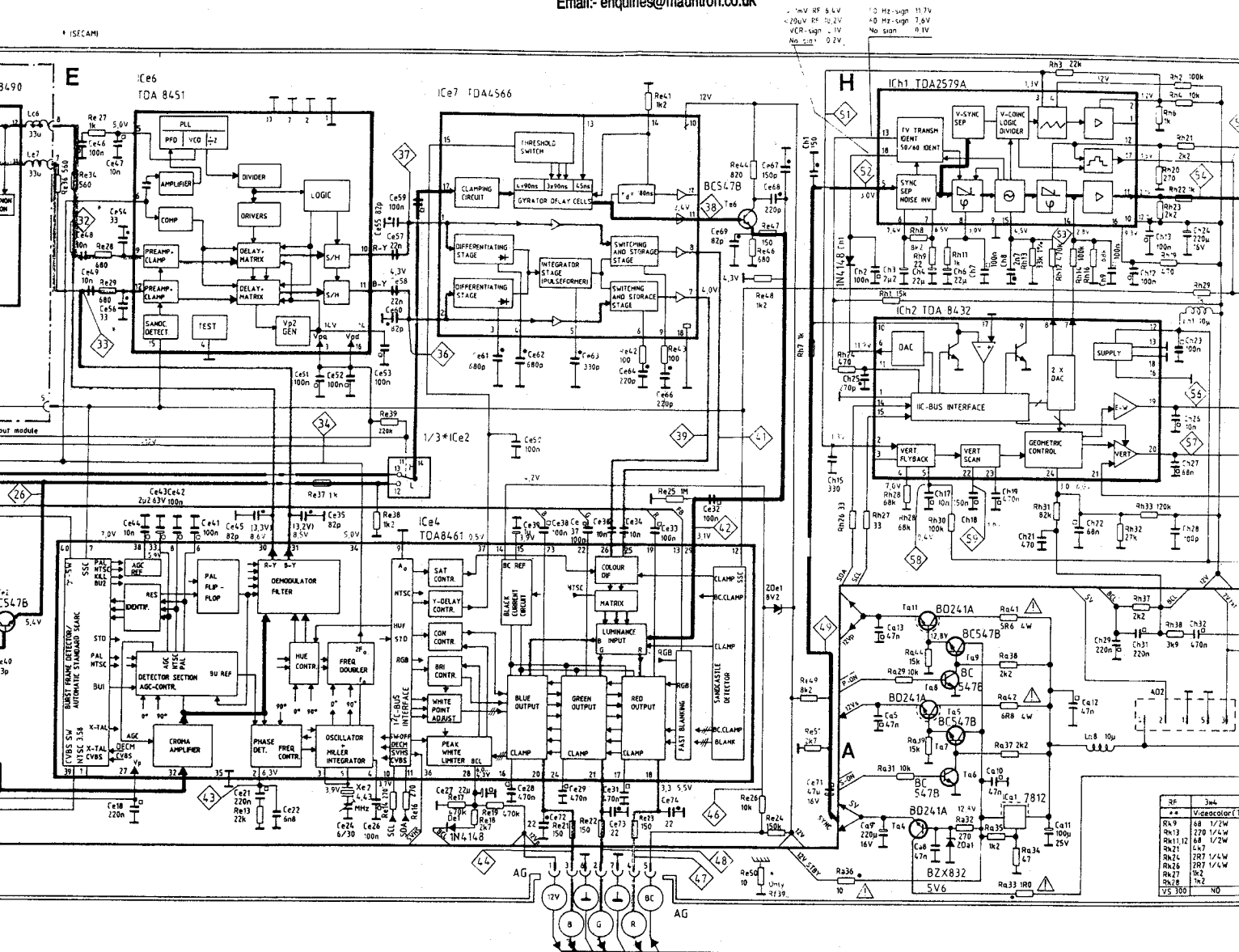
• (SECAM)



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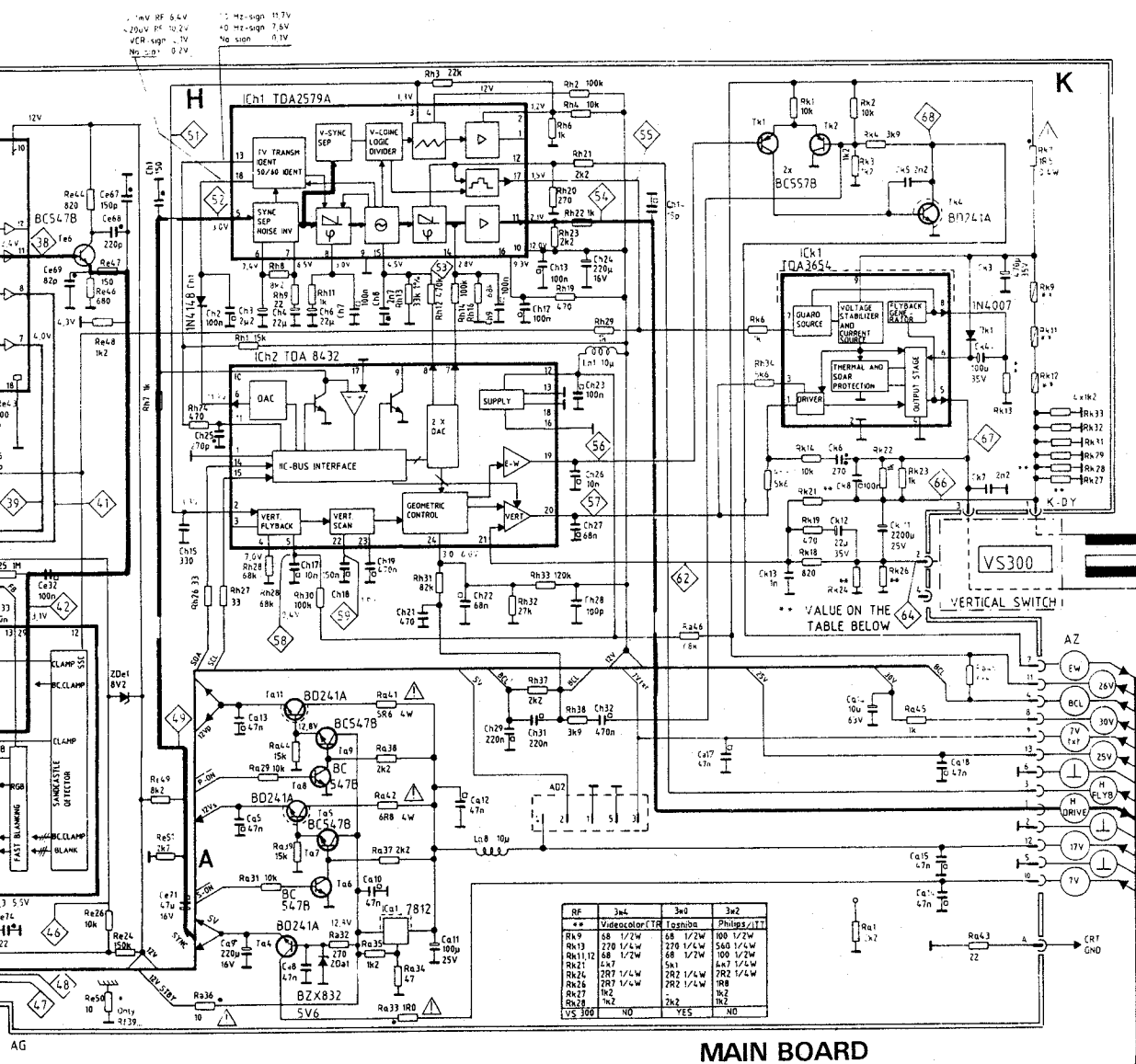
LUMINANCE AND CHROMINANCE

SYNC/ DEFLECTION PROCESSOR



SYNC/ DEFLECTION PROCESSOR

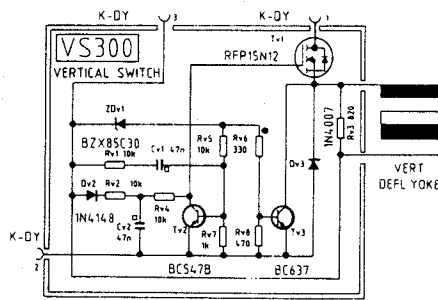
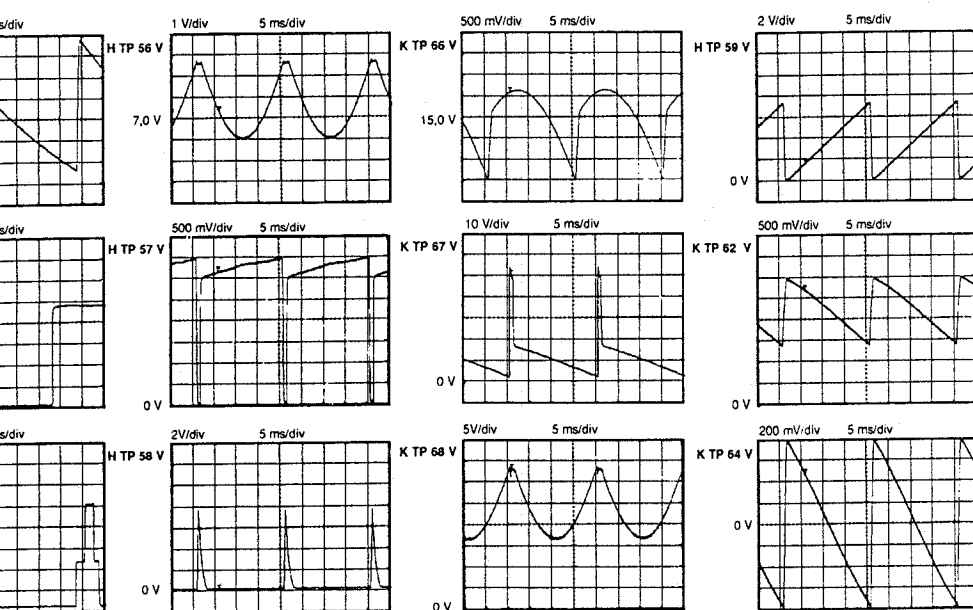
VERT DEFLECTION



MAIN BOARD

D6

D7

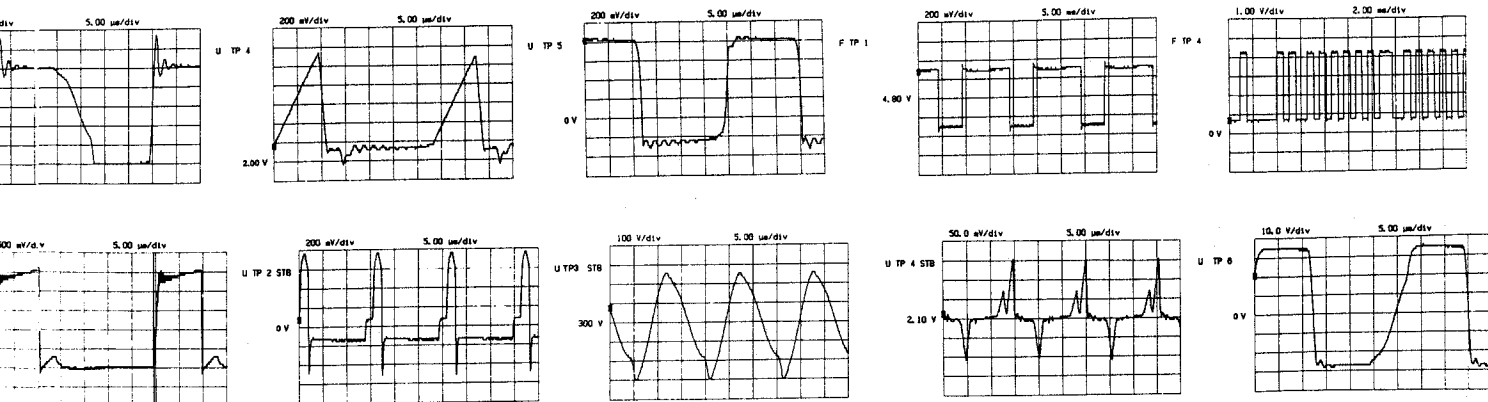


Equipments and setting values for pulses:
 Signal generator PM 5515-TX
 Amplitude of video signal 1V (E TP 22 H)
 Modulation of chrominance signal 100%
 Amplitude of RF signal 3 mV
 Sound stereo (or dual), 1 kHz (L), 3 kHz (R)
 Test picture colour bar

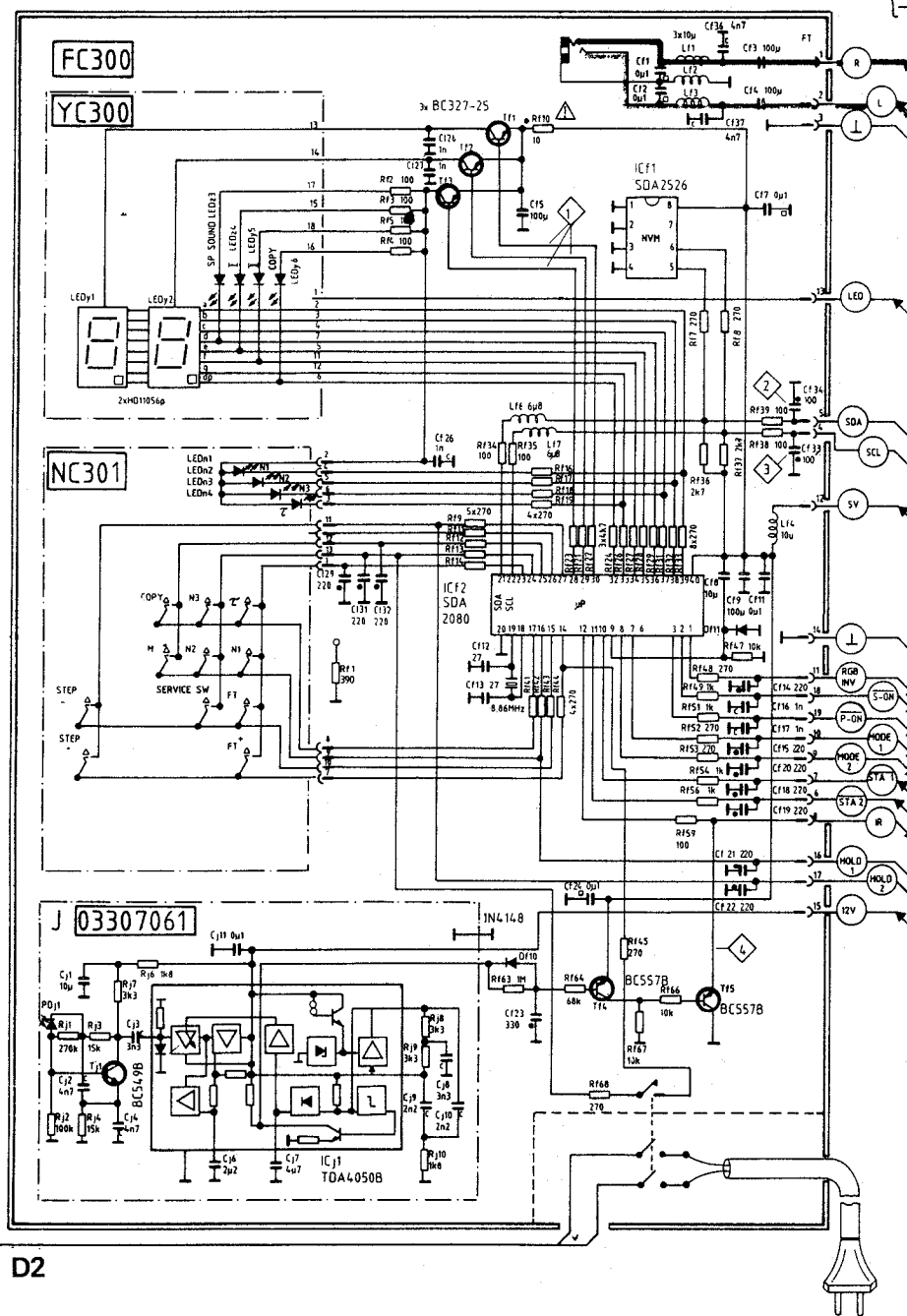
D'



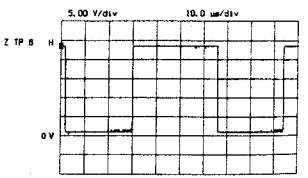
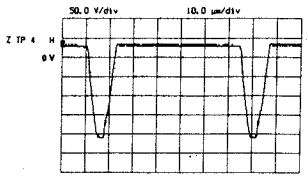
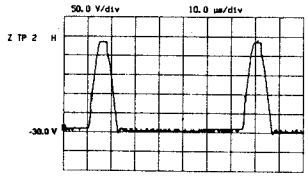
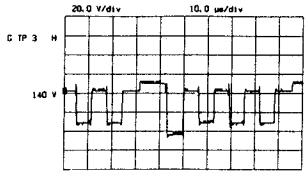
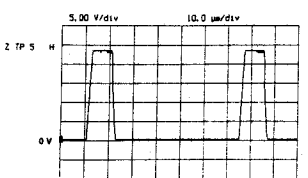
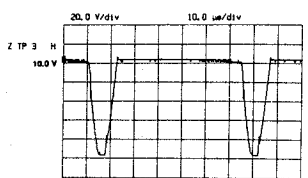
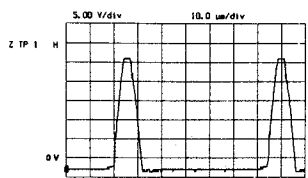
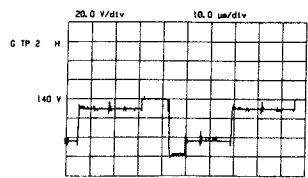
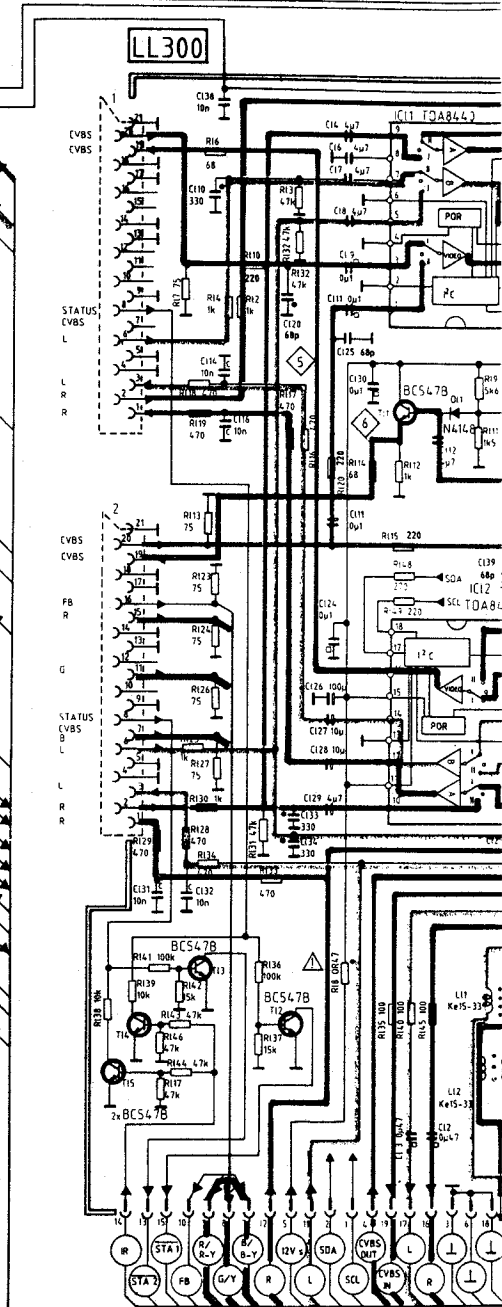
D2

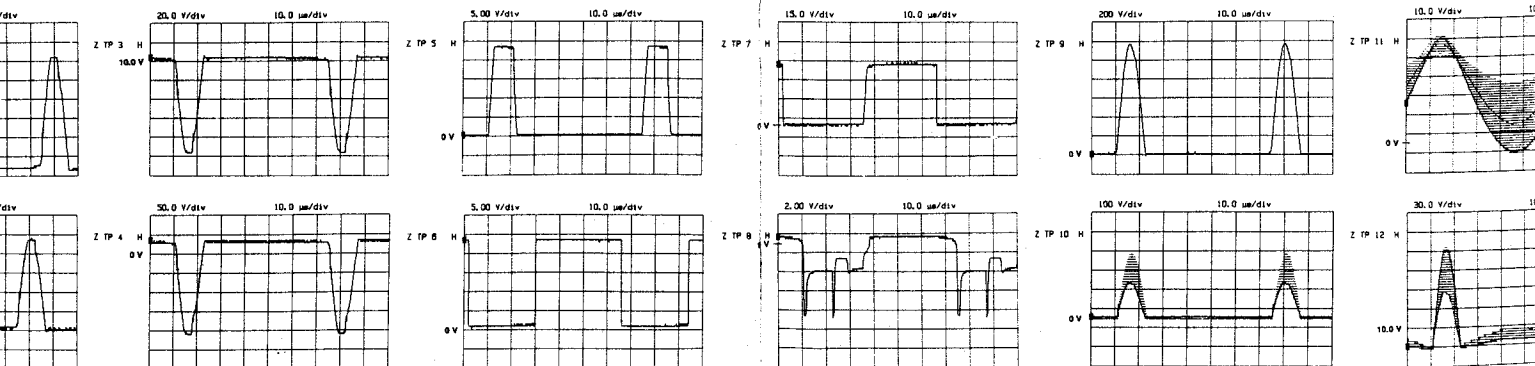
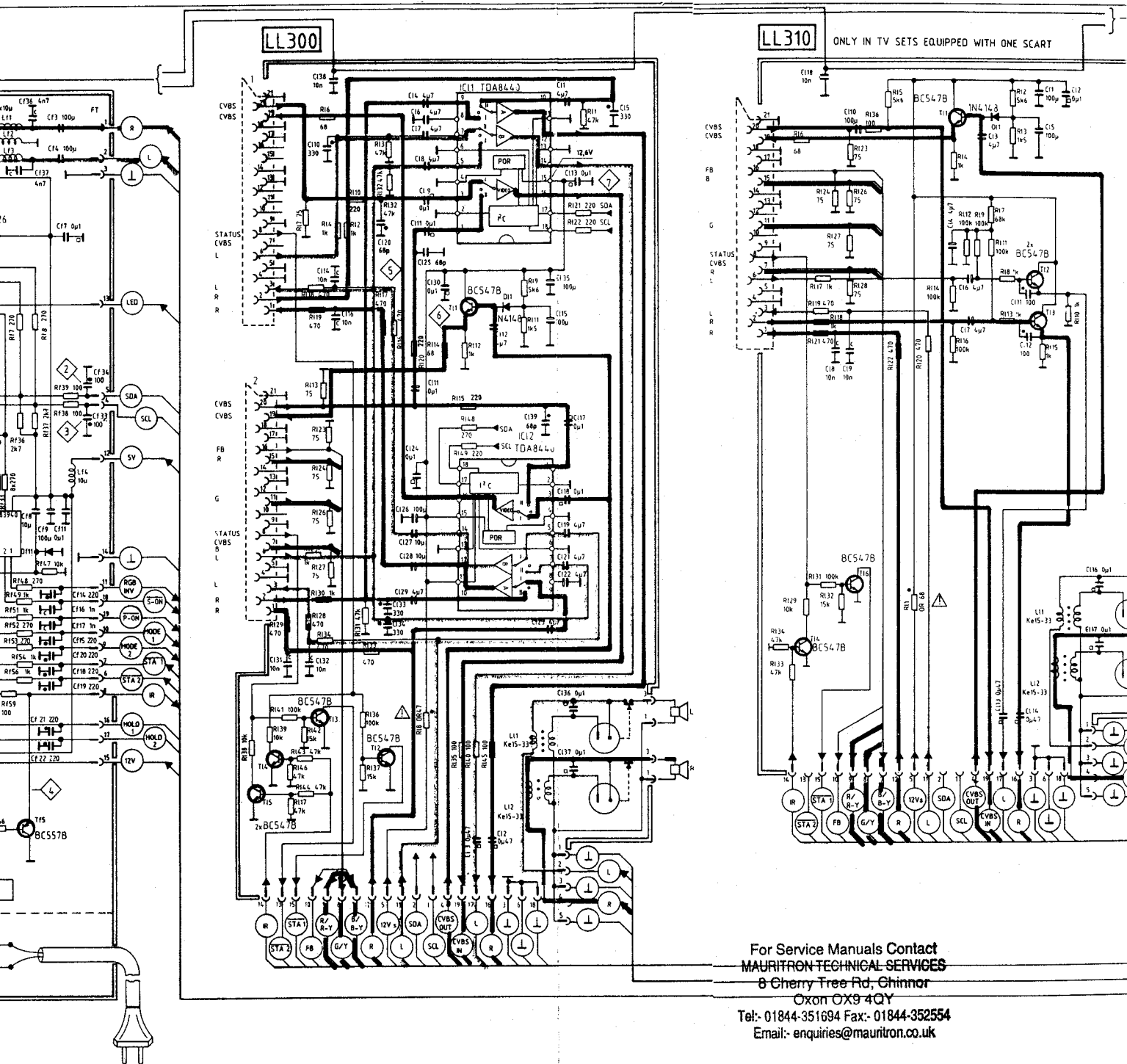


D1



D2





D1



PW300

PW310

PW320

GB

SERVICE ADJUSTMENTS

U. POWER SUPPLY

U1. Supply voltage

U1. Supply voltage
Set brightness and contrast to normal level. Connect an universal voltmeter to the cathode of Du16. Adjust DC-voltage for +138V (± 2 V) with Pu1.

Z. HORIZONTAL DEFLECTION

Z1. Horizontal linearity

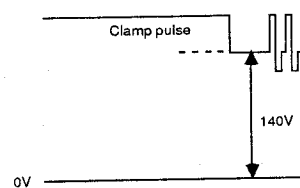
Adjust with Lz5.

22. Focusing

22. Focusing
Set the brightness and contrast to normal level. Using the cross hatch pattern adjust the picture for optimum resolution.

Z3. Screen grid voltage

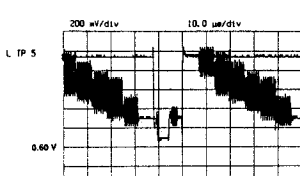
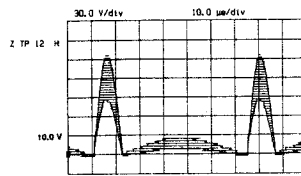
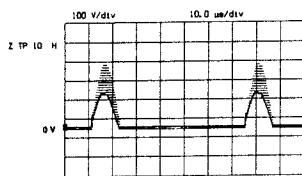
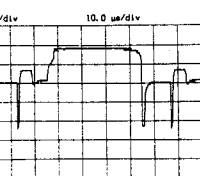
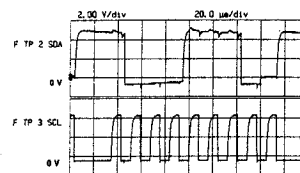
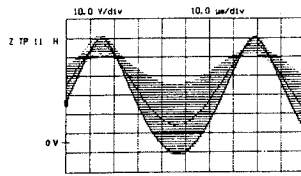
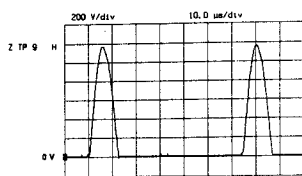
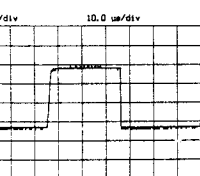
Z3. Screen grid voltage
Set contrast to minimum, brightness and colour saturation to normal level. Use an oscilloscope and control on measuring points 1, 2 and 3 the amplitude of inserted black level clamp pulses during 3 line periods after vertical blanking. Adjust the amplitude of highest clamp pulse to +140V with Uo2 (SCREEN) control (see figure).



D3

D4

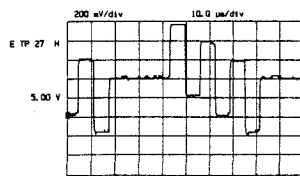
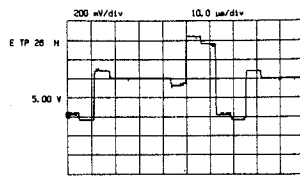
D5

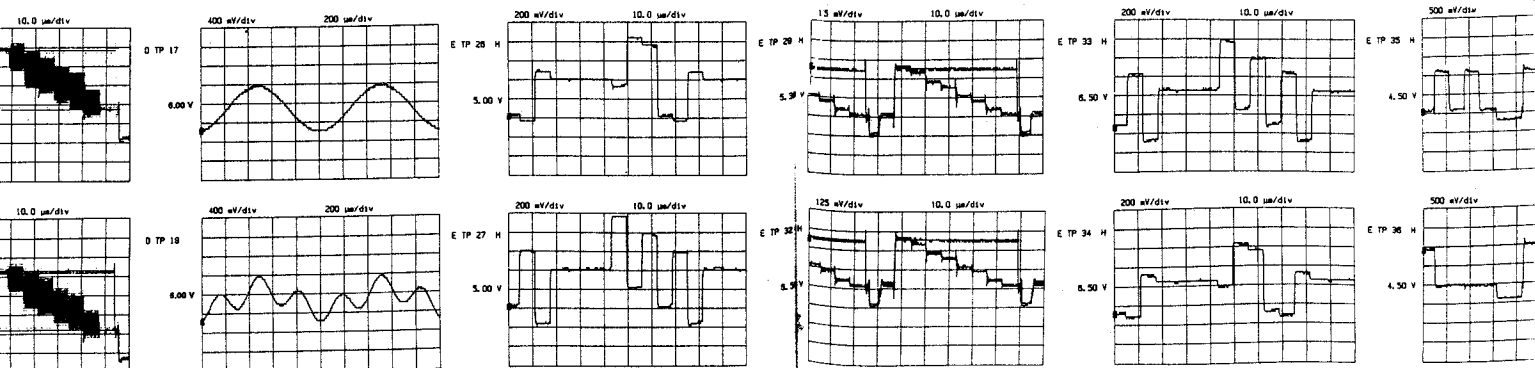
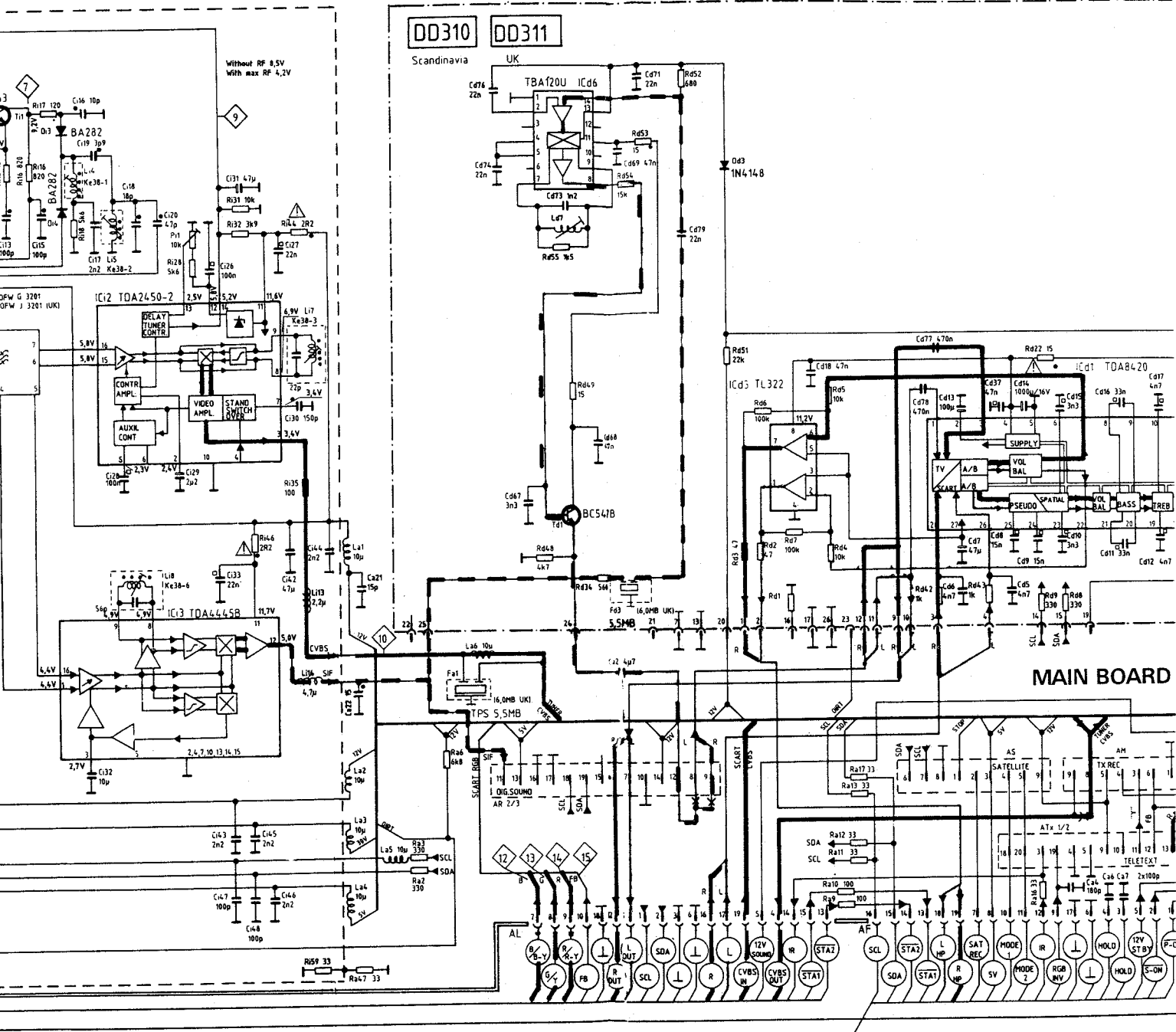




D5

3021F
3024F
3028F
3024S
3028S
3024E
3028E
3024M
3028M





AUDIO AMPLIFIER

UK	Scandinavia
RF340	RF320
342	322
344	324

TOSHIBA 15W SOUND

PHILIPS 15W SOUND

VIDEOCOLOR 15W SOUND

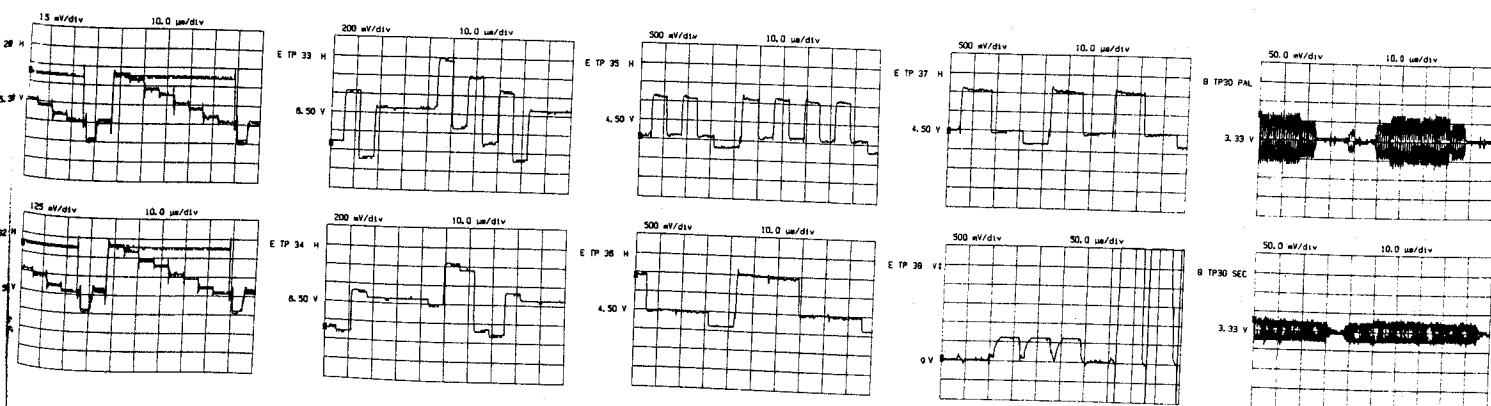
TOSHIBA 15W SOUND

PHILIPS 15W SOUND

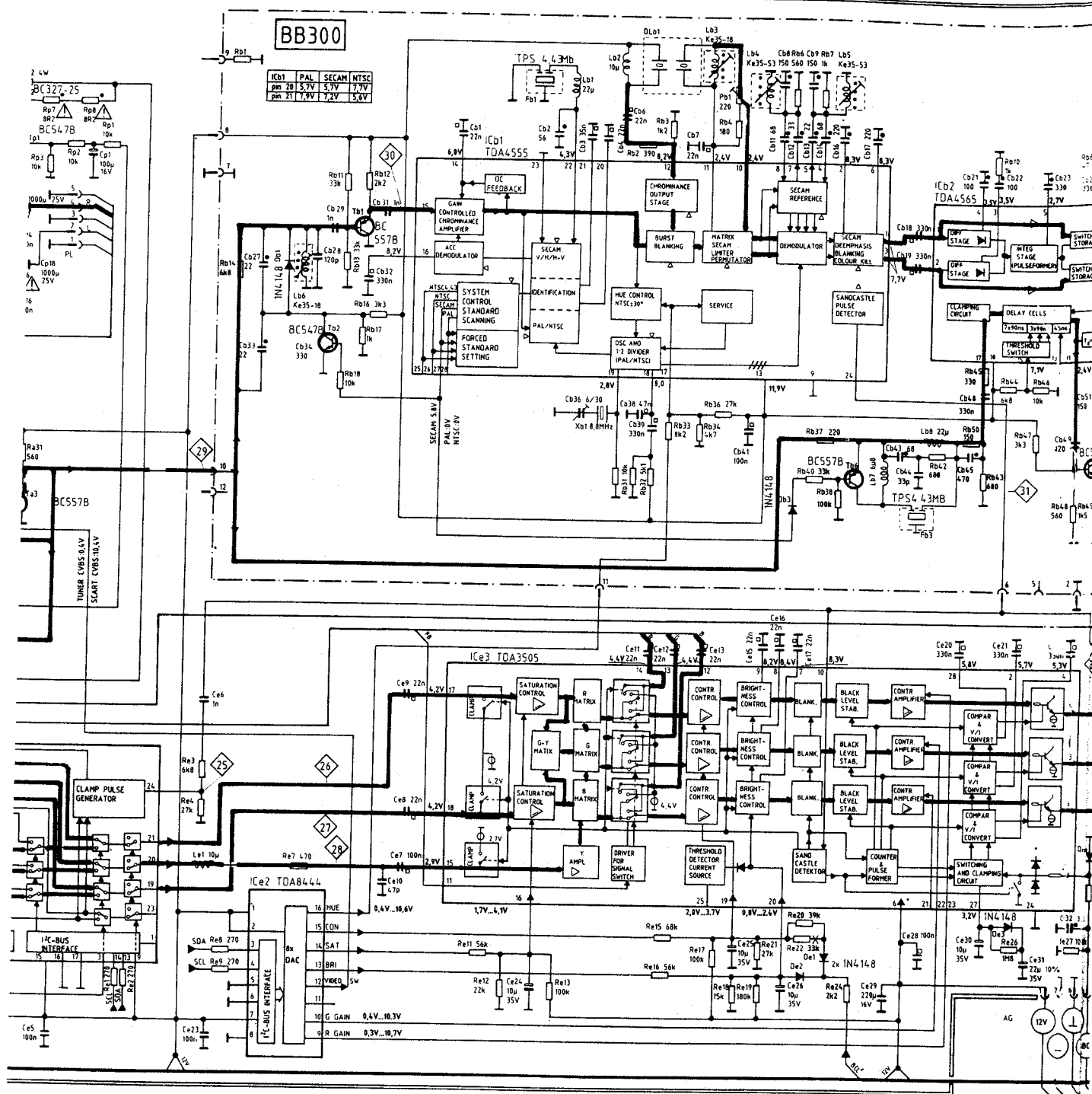
VIDEOCOLOR 15W

SOUND

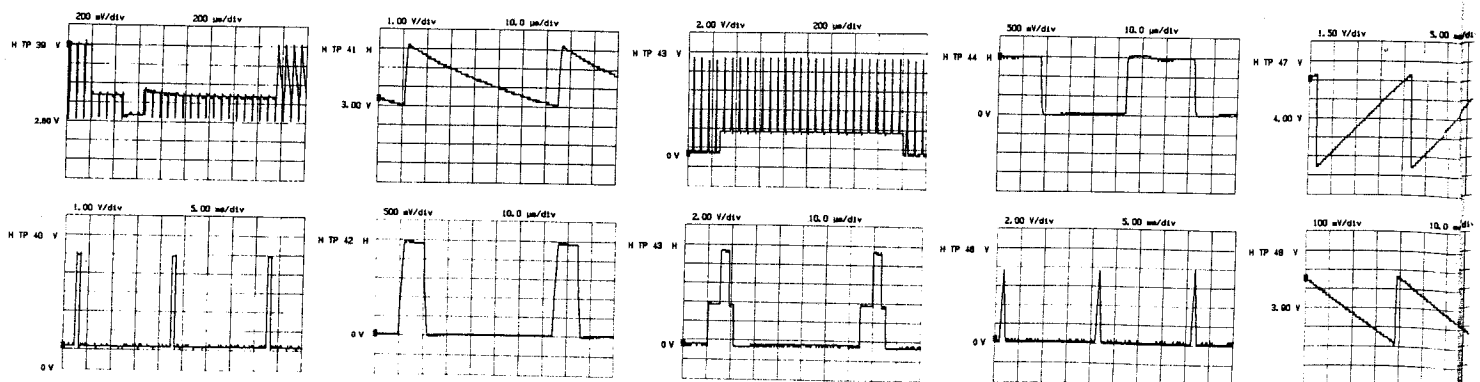
BD241



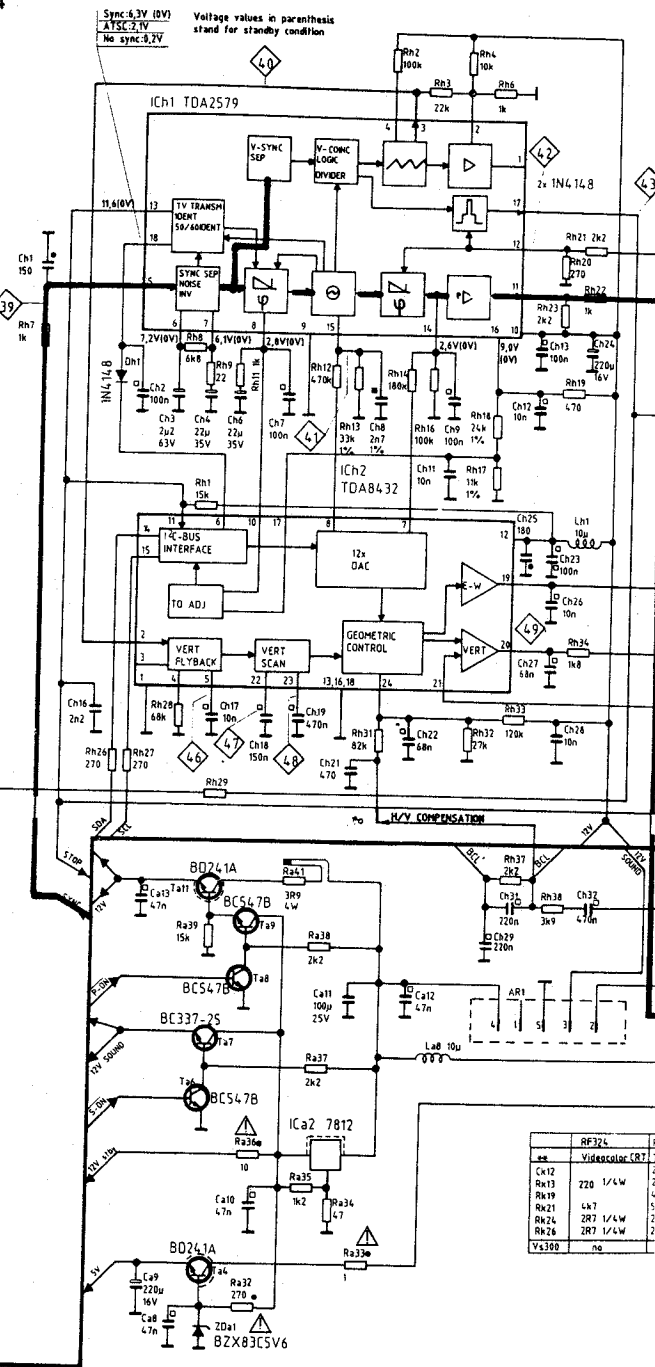
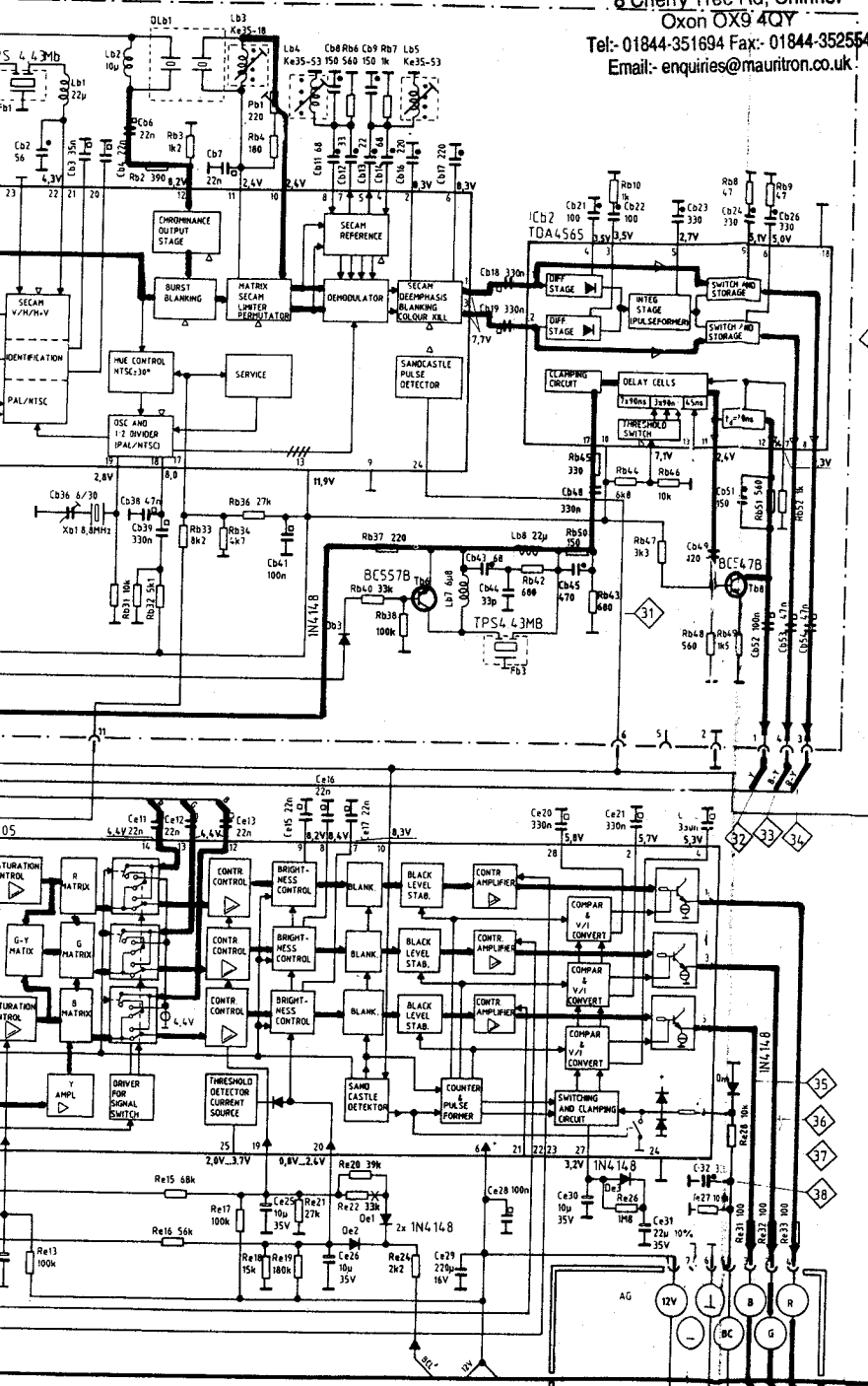
"A"



RGB PROCESSOR

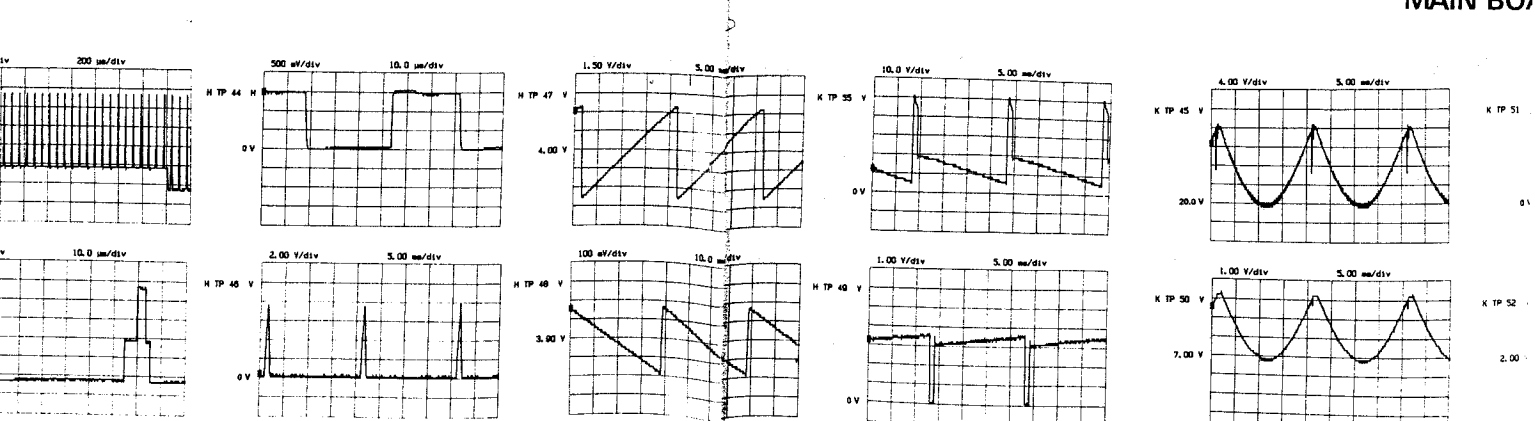


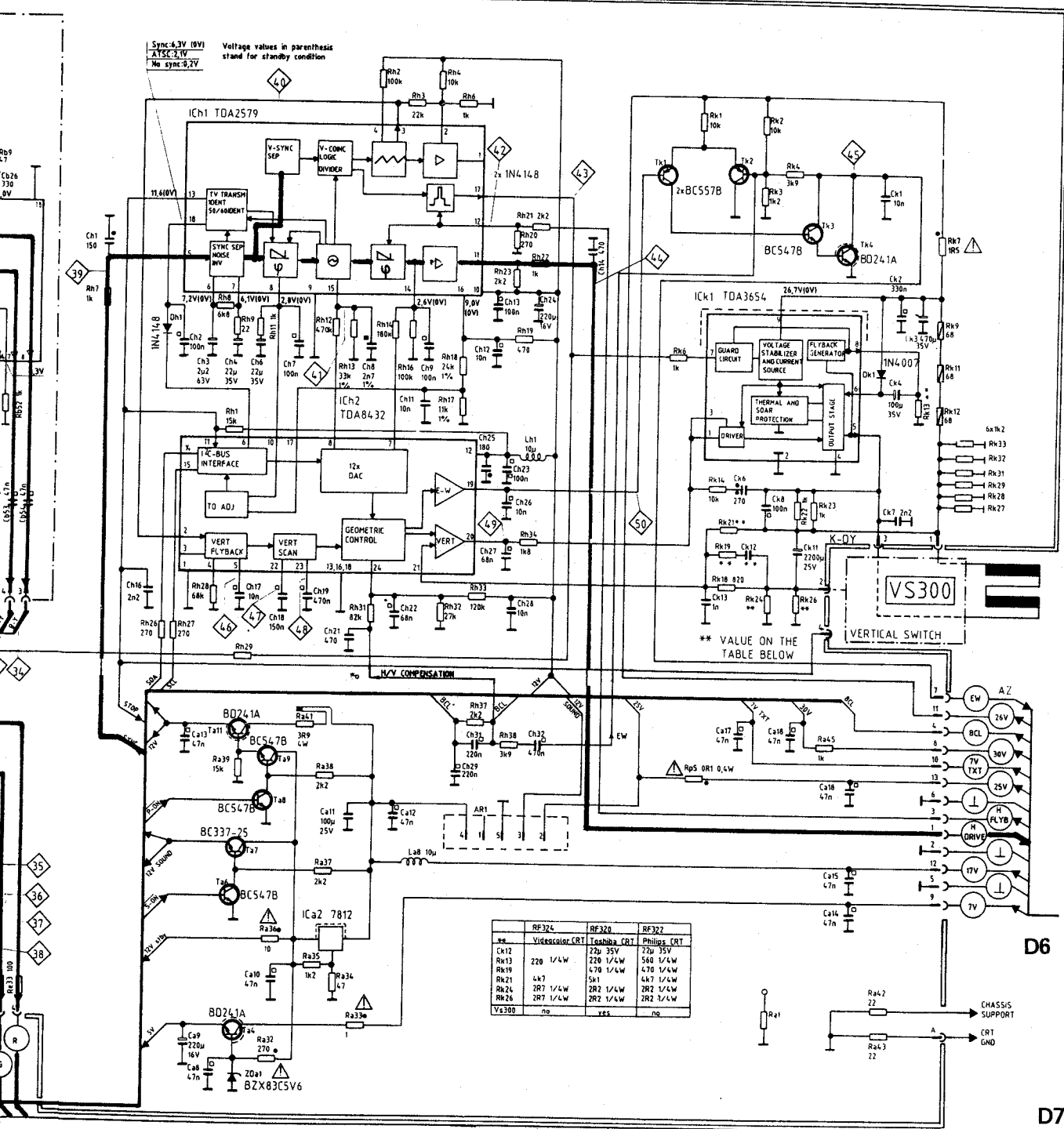
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Email: enquiries@mauriton.co.uk



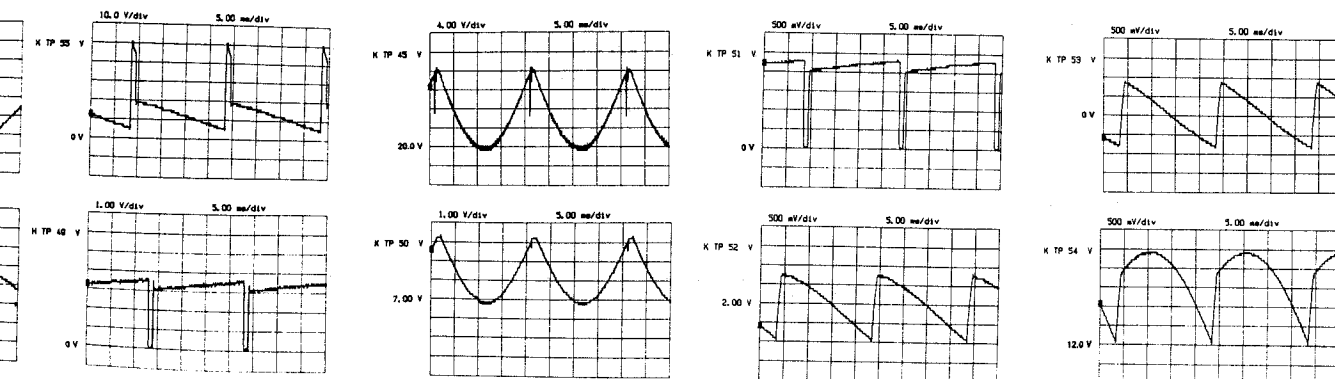
PROCESSOR

MAIN BO





MAIN BOARD



SERVICE ADJUSTMENTS WHICH MUST BE MADE WITH RC HAND UNIT

SERVICE MODE

Before making adjustments with RC hand unit, make sure the supply voltage is correctly adjusted (see service adjustments on power supply/horizontal deflection unit).

Number buttons of the hand unit are used for service adjustments when the set is in the service mode. Analog controls function normally; teletext controls and other special controls don't function.

TV receiver is set to the service mode by pressing quickly one norm button N1, N2 or N3 (or P/C button on the hand unit) and within 8 seconds the service switch located in the local control unit (see figure). In the service mode the display shows one indicator led illuminating and other segments are off. You can get back to normal TV mode by pressing the service switch again. It is possible to get to the service mode only from TV mode.

Remote control commands in the service mode are as follows:

- With number buttons you can give a two numbered code which determines the adjustment (e.g. 27=picture height).
- The adjustment is then made by pressing STEP+ and STEP- buttons.
- The adjusted value is stored to the NVM by pressing -/- button. You must store each function separately. The value of the adjustment range is 00...31 for vertical and horizontal compensation and 00...63 for other adjustments.
- The version number of the NVM can be asked by pressing P/C button. It is shown in hexadecimal form (e.g. "02" = 2k memory, "01" = 1k memory).

CONFIGURATION AND FAULT DIAGNOSIS FOR CIRCUITS CONNECTED TO THE IIC-BUS

By pressing 04 in the service mode, the processor checks all possible addresses of bus driven circuits and shows the address of the circuit if found for about one second. After checking all the circuits, the display shows 04 again.

The set must be configured after adding or removing some options eg:

- adding or changing the teletext module
- adding the inner satellite unit
- changing the scart unit (copy function)

The configuration of the set is stored in the NVM by pressing -/- button. The set takes the new configuration in use only after resetting the set with the mains switch. The configuration serves also as a fault diagnosis system.

In table 1 is shown the remarks for the adjustments.

In table 2 is shown two numbered codes for adjustments. If you choose the code which is not defined, the display will show the previous code again.

If all adjustments must be made, follow the order in table 2.

NB! Horizontal linearity is adjusted with L25.

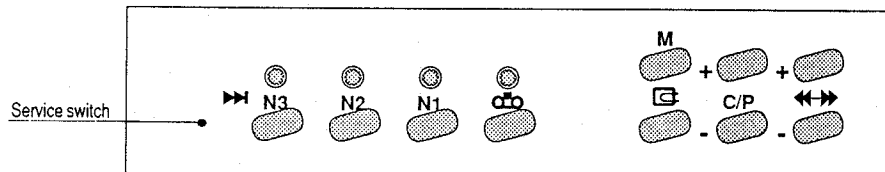
In table 3 is shown the display codes during configuration in the sequence the microprocessor checks them.

NB! There is an adjustment for vertical and horizontal shift (codes 30 and 38) both in 50Hz and 60Hz systems. While adjusting you must have the right transmission.

TABLE 1		
Adjustment	Code	Remarks
R and G gain	22 and 23	Adjust white area of test picture to white.
Line frequency	25	Connect test point 39 to the ground before adjustment.
Picture height and vert. comp.	27 and 31	Set brightness and contrast to 20% and adjust the picture height (code 27). Press memory button (-/-). Set brightness and contrast to 90 % and compensate the change in picture height (code 31). Press memory button (-/-).
Picture width and hor. comp.	32 and 36	Set brightness and contrast to 20% and adjust the picture width (code 32). Press memory button (-/-). Set brightness and contrast to 90% and compensate the change in picture width (code 36). Press memory button (-/-).

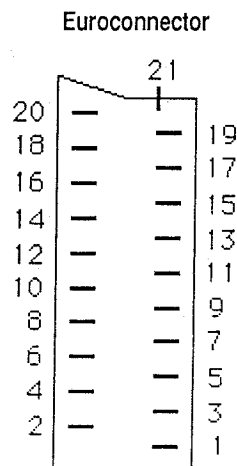
TABLE 2	
Adjustment	Code
Line frequency	25
Vertical shift/50Hz	30
Vertical shift/60Hz	38
Picture height	27
Vertical compensation	31
Vertical linearity	28
Hor. phase shift	26
Picture width	32
Hor. compensation	36
Trapez correction	35
S-correction	29
E-W corner correction	34
E-W raster correction	33
R gain	22
G gain	23

TABLE 3	
06	Satellite processor
04	Teletext processor (high feature)
22	CCT basic teletext (IC12)
d2	RGB-switch (ICe1)
94	Extra videowswitch (only in monitor)
92	Copy switch (IC12)
90	Scart switch (IC11)
80	Sound adjustment circuit (ICd1)
84	Stereo identification circuit (ICd2)
48	Driver of the decoder (ICe2)
8C	Sync processor (IC2)
C2	PLL (IC11)
A2	NVM of teletext (IC15)
A0	NVM of TV (IC11)
Pn	Picture memory n kilobyte
An	Antiope text

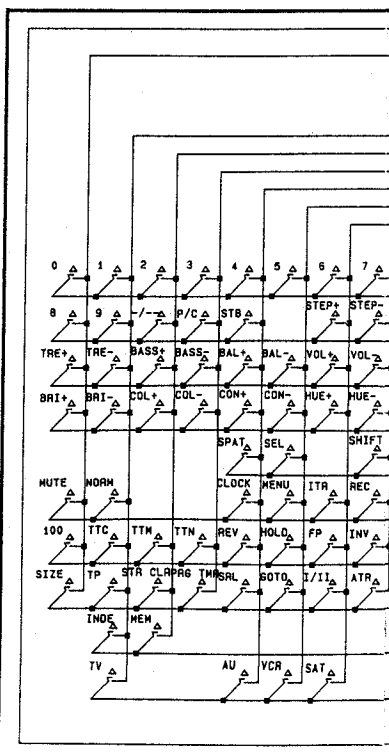


SCART EUROCONNECTOR

Contact number	Signal	Matching value
1	Audio output	0.5V/1kohm
2	Audio input	0.5V/10kohm
3	Audio output	0.5V/1kohm
4	Audio ground	-
5	Blue ground	-
6	Audio input	0.5V/10kohm
7	Blue input	0.7V/75ohm, positive going signal
8	Function switching (TV/VCR)	Logical zero: 0V to +0.4V Logical one: +9.5V to +12V Open collector
9	Green ground	-
10	No connection permitted	-
11	Green input	0.7V/75ohm, positive going signal
12	No connection permitted	-
13	Red ground	-
14	RC-signal input	Min 6Vpp, max 12Vpp
15	Red input	0.7V/75ohm, positive going signal
16	Fast blanking input	Logical zero: 0V to +0.4V Logical one: +1V to +3V
17	Video ground	-
18	Fast blanking ground	-
19	Video output	1V/75ohm, positive going video
20	Video input	175ohm, positive going video
	Synchronization input	0.3Vpp/75ohm
21	Plug shield	Connected to chassis

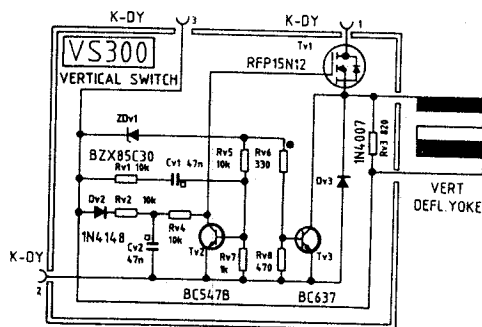
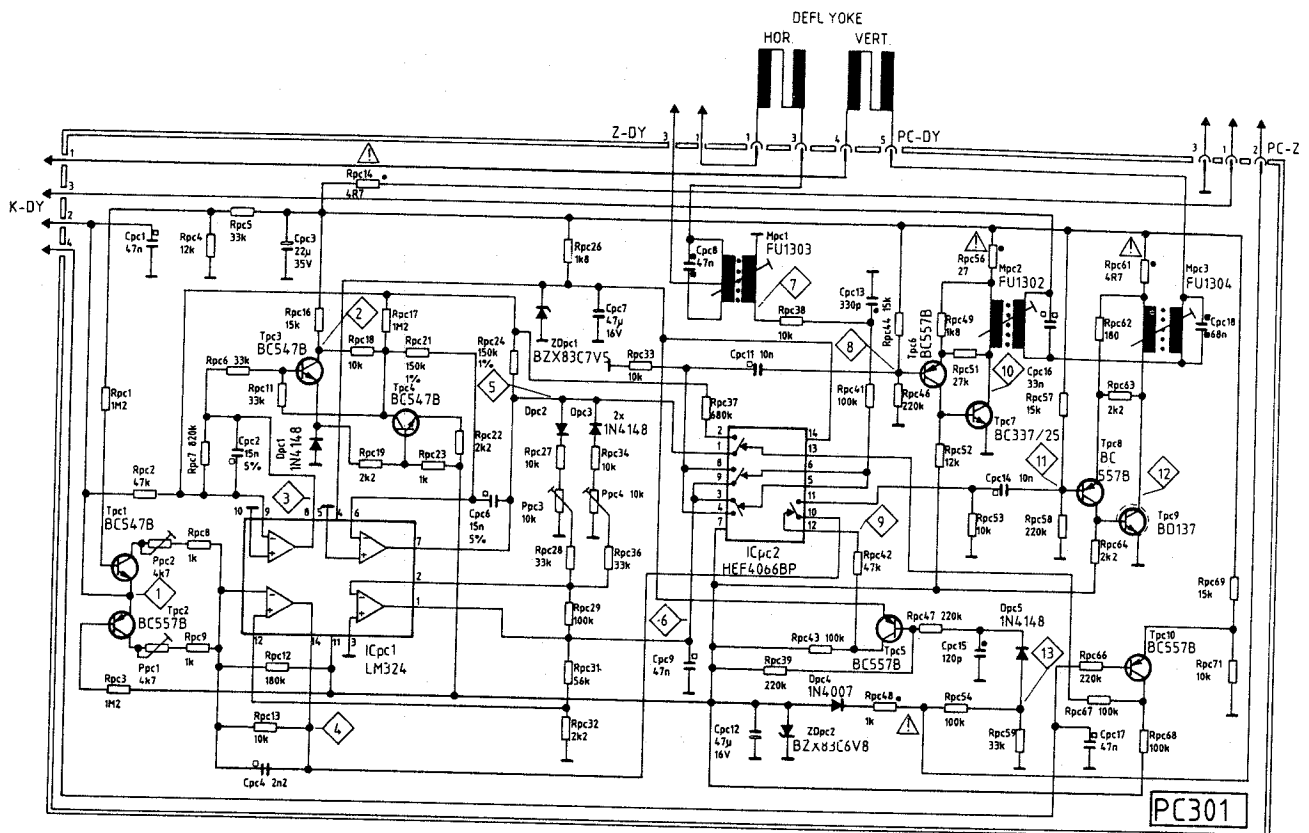


REMOTE CONTROL TRANSMITTER



RASTER CORRECTION MODULE

PC301



RASTER CORRECTION MODULE PC301

SERVICE ADJUSTMENTS

The adjustments have to be made in the following order. Use cross hatch pattern.

PC1. Dynamic S-correction

Connect the oscilloscope to test point 7, and adjust the curve according to figure 1, with Mpc1.

PC2. North-South phase correction

Turn Ppc1 fully clockwise viewed through the print side. Adjust Mpc3 until the bow of the pattern is horizontally in the middle of the screen.

PC3. North-South amplitude correction

Adjust the horizontal lines as straight as possible with Ppc1 and Ppc2.

PC4. Gullwing phase correction

Turn Ppc3 and Ppc4 to the middle position. Connect the oscilloscope to test points 7 and 10, and adjust the curves according to the figure 2, with Mpc2.

PC5. Gullwing amplitude correction

Adjust the horizontal lines as straight as possible with Ppc3 and Ppc4.

MITTER TC300

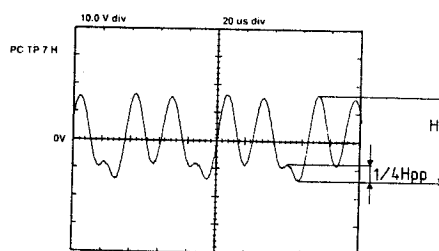
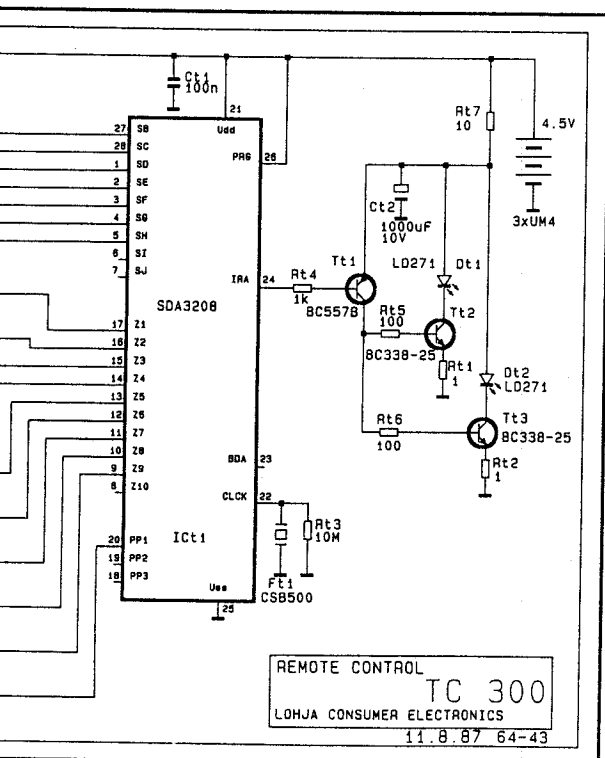


FIG.1

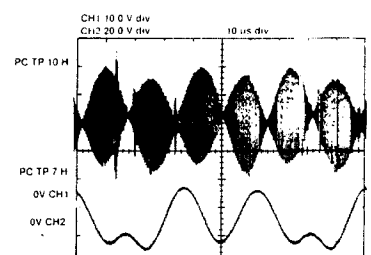
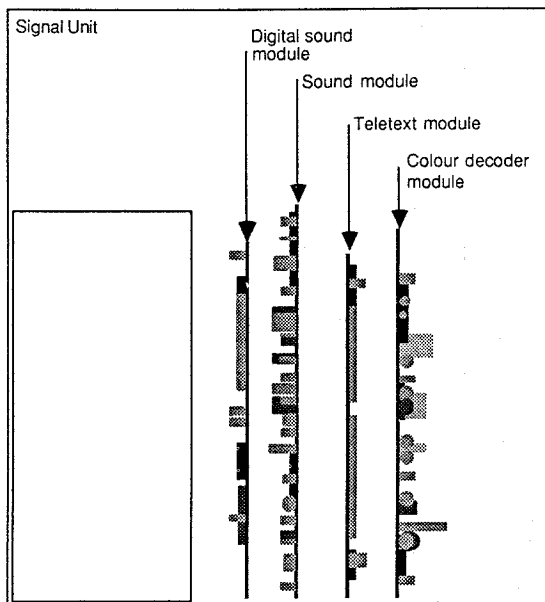


FIG.2

GB

MOUNTING INSTRUCTIONS OF THE TELETEXT MODULE

1. Mount the Teletext module into the teletext connectors of the Signal Unit (see fig.).
2. Switch the receiver on and set it to the service mode.
3. Start the configuration by pressing 04, store it in the NVM by pressing +/- button and reset the set with the mains switch.



SDA 2060

CAAD = Clock activated analog display
NPCLR = No page clear in step function
FULLF = Full field teletext reception is possible
APS1, APS0 = Advertising page select

APS1	APS0	
0	0	None
0	1	Quelle
1	0	Finlux
1	1	Asa

IPLB0, IPLB1, IPLB2

IPLB2	IPLB1	IPLB0	
0	0	0	Automatic selection through transmitted language bits
0	0	1	Italian info page
0	1	1	German info page
1	1	0	French info page
1	1	1	English info page

SAA 5231

STTV = Sync output to TV
Osc out = Oscillator output (6 MHz)
Osc in = Oscillator input (6 MHz)
VID IN = Composite video input
TTD = Teletext data output
TTC = Teletext clock output
F6 = 6 MHz clock output
VCS = Video composite sync output
SAND = Sandcastle input
TCS = Sync input

SAA 5241

COR = Contrast reduction
TTD = Teletext data input
TTC = Teletext clock input
F6 = 6 MHz clock input
VCS = Video composite sync input
SAND = Sandcastle output
TCS/SCS = Text composite sync/scan composite sync output
HOK = Hamming O.K.
D0 - D7 = 8 RAM data lines
OE = Output enable
VCC = Power supply
SCL = Serial clock input
SDA = Serial data
Y = Character foreground
R = Red output
B = Blue output
G = Green output
FB = Blanking output
A10 - A12 = Chapter address output
A0 - A9 = RAM address output
WE = Write enable output

SAA 5231

STTV = Sync output to TV
Osc out = Oscillator output (6 MHz)
Osc in = Oscillator input (6 MHz)
VID IN = Composite video input
TTD = Teletext data output
TTC = Teletext clock output
F6 = 6 MHz clock output
VCS = Video composite sync output
SAND = Sandcastle input
TCS = Sync input

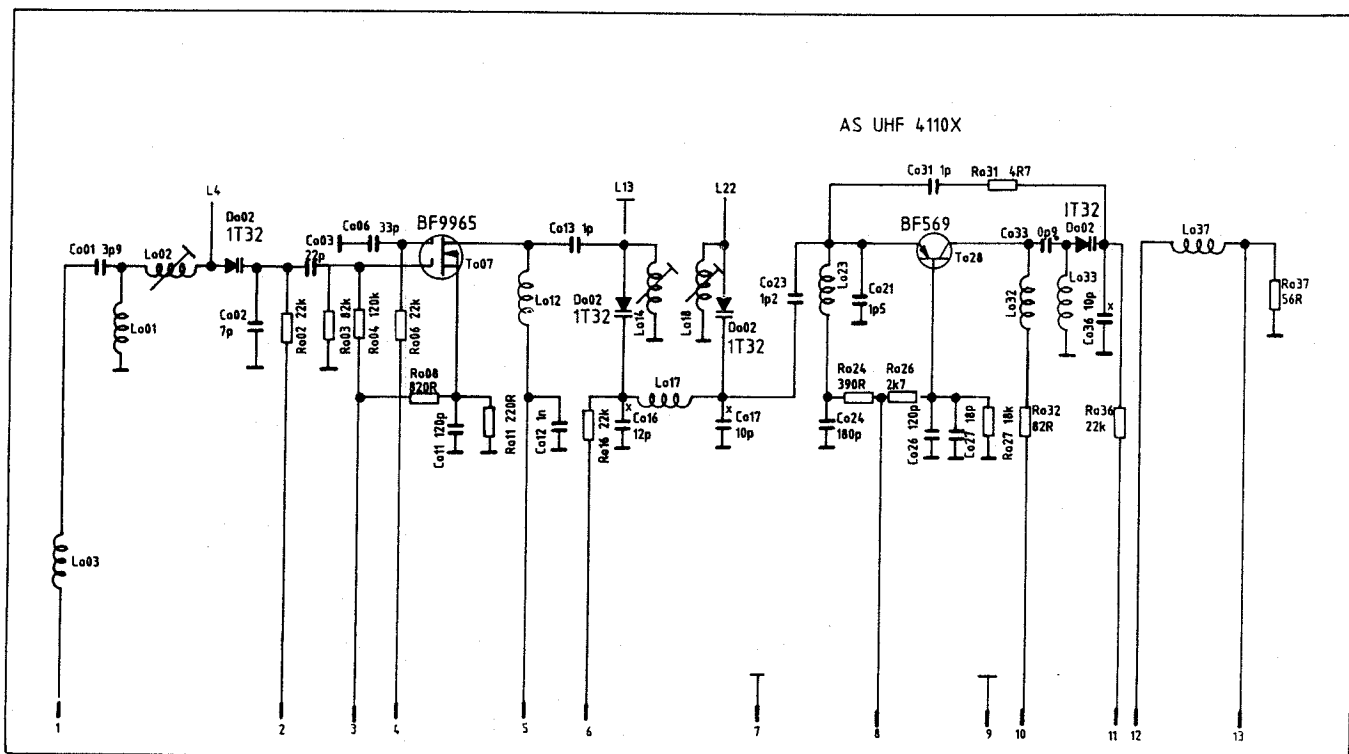
SAA 5240

COR = Contrast reduction
TTD = Teletext data input
TTC = Teletext clock input
F6 = 6 MHz clock input
VCS = Video composite sync input
SAND = Sandcastle output
TCS/SCS = Text composite sync/scan composite sync output
HOK = Hamming O.K.
D0 - D7 = 8 RAM data lines
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Email: enquiries@mauritron.co.uk

UHF SUBMODULE 4110



SAA 5241

- = Clock activated analog display
- = No page clear in step function
- = Full field teletext reception is possible
- = Advertising page select

APS1	APS0	
0	0	None
0	1	Quelle
1	0	Finlux
1	1	Asa

- = Info page language bits

IPLB2	IPLB1	IPLB0	
0	0	0	Automatic selection through transmitted language bits
0	0	1	Italian info page
0	1	1	German info page
1	1	0	French info page
1	1	1	English info page

- = Sync output to TV
- = Oscillator output (6 MHz)
- = Oscillator input (6 MHz)
- = Composite video input
- = Teletext data output
- = Teletext clock output
- = 6 MHz clock output
- = Video composite sync output
- = Sandcastle input
- = Sync input

COR
TTD
TTC
F6
VCS
SAND
TCS/SCS

HOK
D0 - D7
OE
VCC
SCL
SDA
Y
R
B
G
FB
A10 - A12
A0 - A9
WE

- = Contrast reduction
- = Teletext data input
- = Teletext clock input
- = 6 MHz clock input
- = Video composite sync input
- = Sandcastle output
- = Text composite sync/scan composite sync output
- = Hamming O.K.
- = 8 RAM data lines
- = Output enable
- = Power supply
- = Serial clock input
- = Serial data
- = Character foreground
- = Red output
- = Blue output
- = Green output
- = Blanking output
- = Chapter address output
- = RAM address output
- = Write enable output

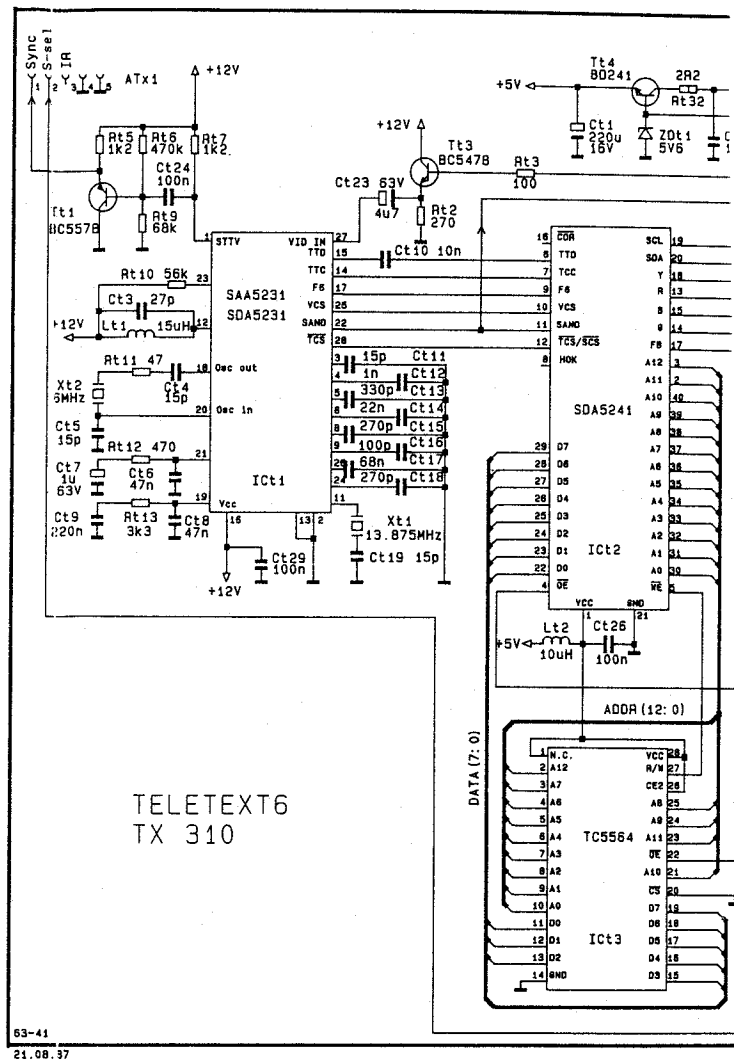
SAA 5240

COR
TTD
TTC
F6
VCS
SAND
TCS/SCS

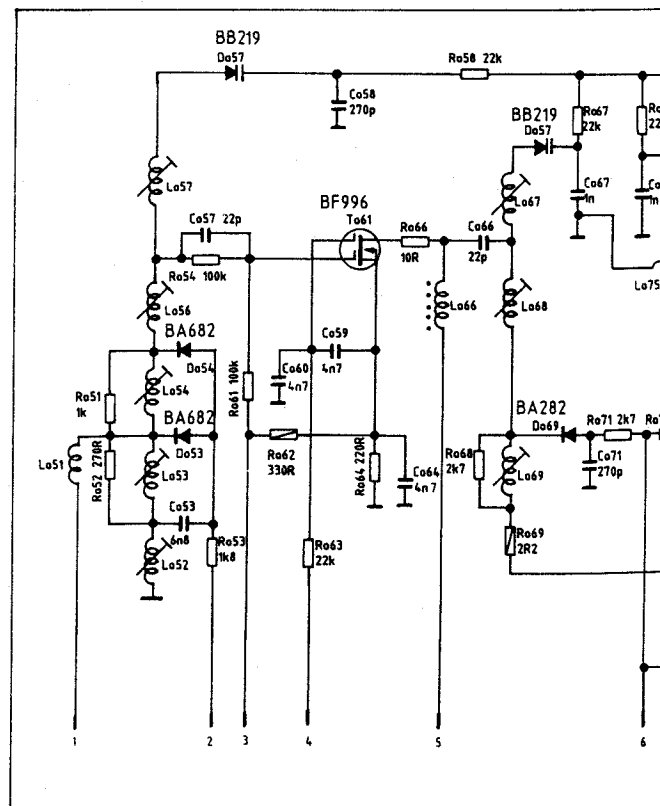
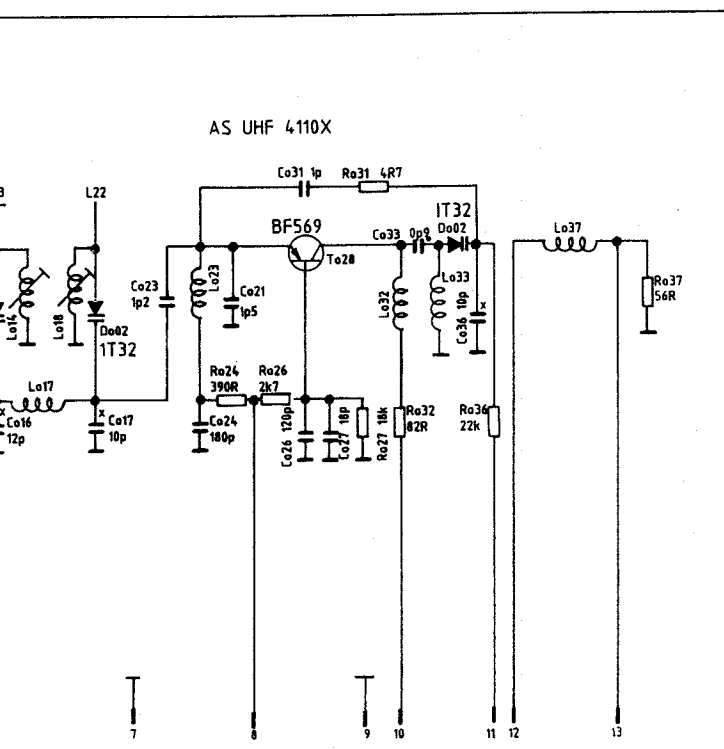
HOK
D0 - D7
OE
VCC
SCL
SDA
Y
R
B
G
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A10 - A12
A0 - A9
WE

- = Contrast reduction
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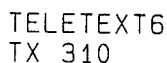
TELETEXT MC



UHF SUBMODULE 4110

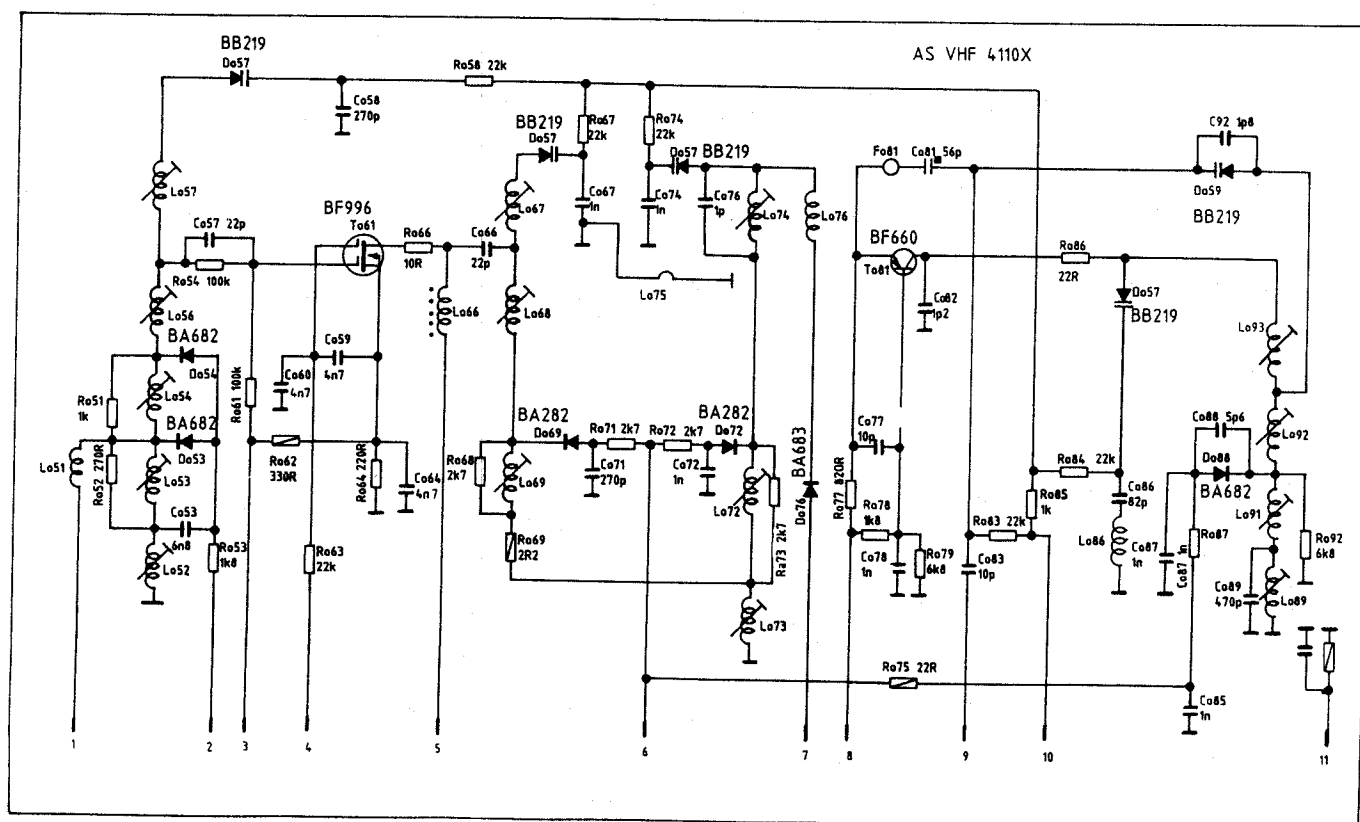


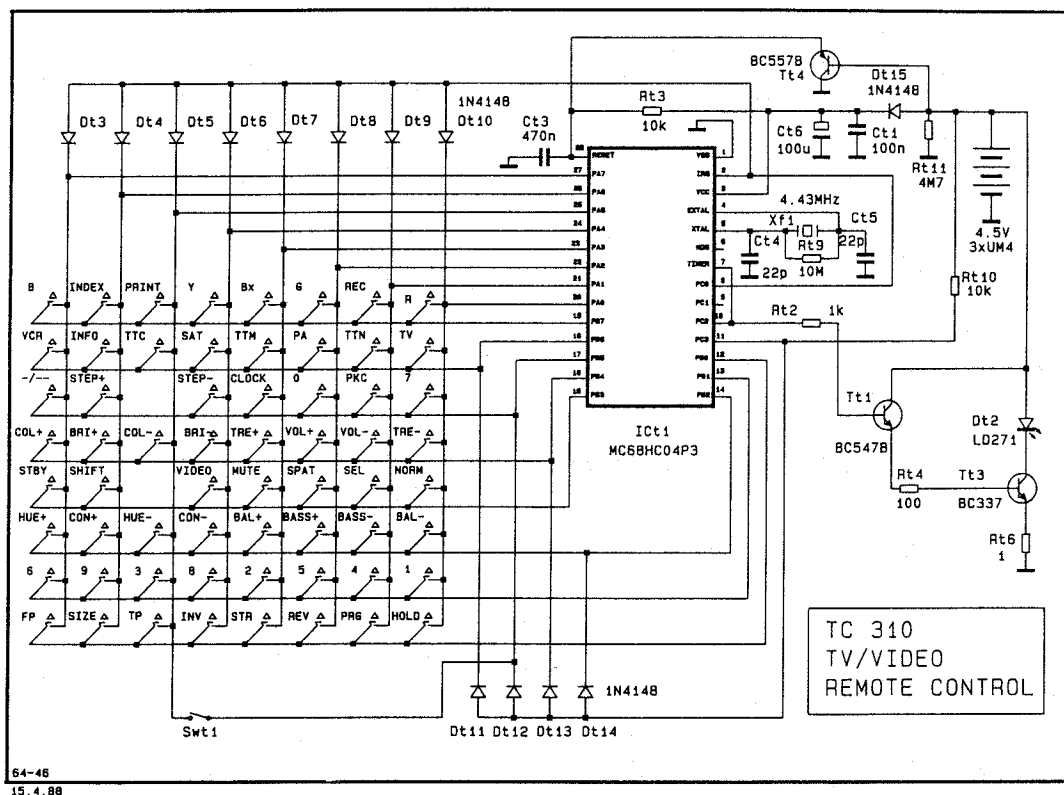
TX310



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VHF SUBMODULE 4110





	RN100	RN101
Cr11	56p	56p + 100p
Fr01	TH3168QM-2080QDAF	TH3168QM-2110QDAF
Xr01	5,85 MHz	6,552 MHz

PERMANENT PROGRAMMING OF RC3010

Remote control hand unit RC3010 can be programmed for different VCRs by using programming switch and number buttons as described in instruction manual. The basic setting mode of the remote control functions is mode 0 (FINLUX VR 2008) or 8 (ASA VR 2017). You can change the basic setting permanently by mounting the diodes Dt11...Dt14 (1N 4148) according to the table 1. When changing the batteries or when remote control unit lacks the operating voltage for some other reason, the basic setting mode is always taken in use after reconnecting the operating voltage. From table 2 you can find which VCR models function in which mode.

Mode 0	FINLUX VR 2008, SCHNEIDER 266
Mode 1	FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040 ASA VR 6000, VR2019 PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
Mode 2	SHARP 781, 783, 785, 100, 102, 501, 801, 851
Mode 3	SHARP 682, 683, 684, 685, 693, 6F3
Mode 4	JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
Mode 5	D.E.R.
Mode 6	HITACHI VT-250, VT-120, VT-130, VT-150 414E, 420
Mode 7	PANASONIC NV-G 12, 21, 25, NV-870 BLAUPUNKT RTV-320
Mode 8	ASA VR 2017

Table 2

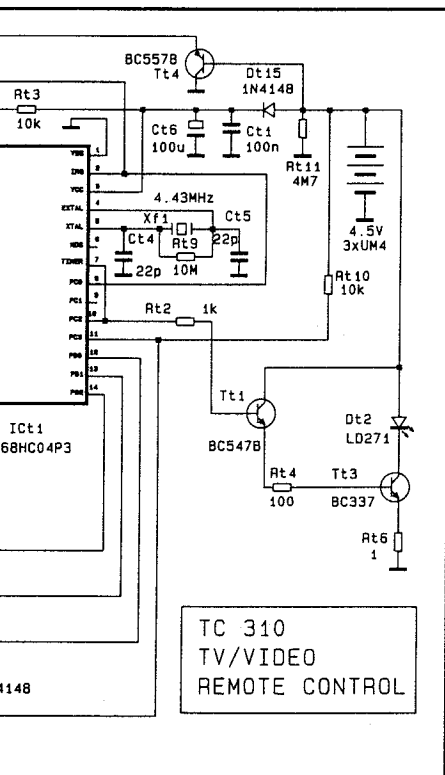
2) Mounting of the Nicam

- o Check that resistors R are missing, fit 15 kohm
- o Bend the coil Lf3 (6,8 mH) unit.
- o Bend also the signal u connector.

	Dt11	Dt12	Dt13	Dt14
Mode 0	-	-	-	-
Mode 1	-	-	-	x
Mode 2	-	-	x	-
Mode 3	-	-	x	x
Mode 4	-	x	-	-
Mode 5	-	x	-	x
Mode 6	-	x	x	-
Mode 7	-	x	x	x
Mode 8	x	-	-	-

Table 1

Order no. Art.nr Tilausnumero	NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
03500606	RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1242, 1248, 1288, 2232, 2242, 2272, 2282
03500607	RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 1332, 2333, 2336, 2342, 2343, 2346, 2372, 2386
03500608	RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 24
03500609	RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682

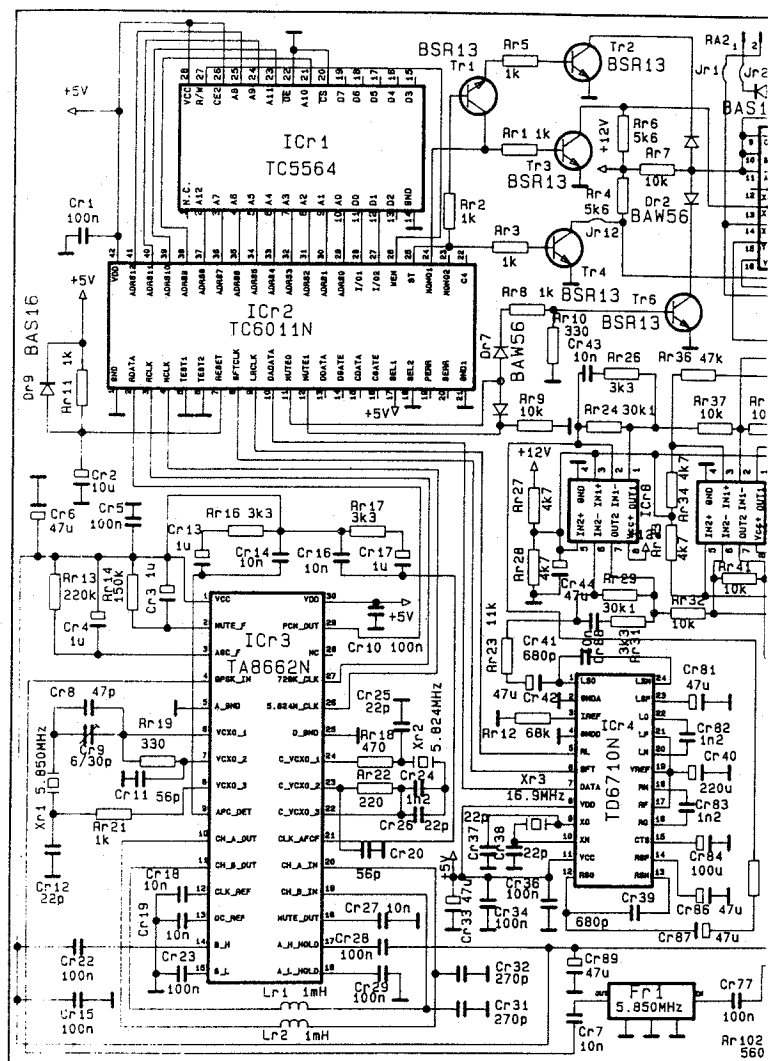


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	RN100	RN101
Cr11	56p	56p + 100p
Fr01	TH316BQM- 20800DAF 5.85 MHz	TH316BQM- 21100DAF 6.552 MHz
Xr01		

FINLUX VR 2008, SCHNEIDER 266
FINLUX VR 1010, 1012, 1030, 2010, 2030, 2040
ASA VR 6000, VR2019
PHILIPS VR 6443, 6543, 6862, 6462, 6660, 6467, 6760
SHARP 781, 783, 785, 100, 102, 501, 801, 851
SHARP 682, 683, 684, 685, 693, 6F3
JVC HR-D 170, 180, 210, 230, 310, 470, 755, 530 EH, 120, 300
D.E.R.
HITACHI VT-250, VT-120, VT-130, VT-150 414E, 420
PANASONIC NV-G 12, 21, 25, NV-870
BLAUPUNKT RTV-320
ASA VR 2017

Table 2



2) Mounting of the Nicam module

- o Check that resistors Rr16 and Rr17 have been composed in the receivers signal unit. If these resistors are missing, fit 15 kohm 0,25 W 5%:
- o Bend the coil Lr3 (6,8 μ H) of the NICAM module so that it doesn't touch a coolingplate of the signal unit.
- o Bend also the signal units components that they won't touch the NICAM module when mounting it on connector.

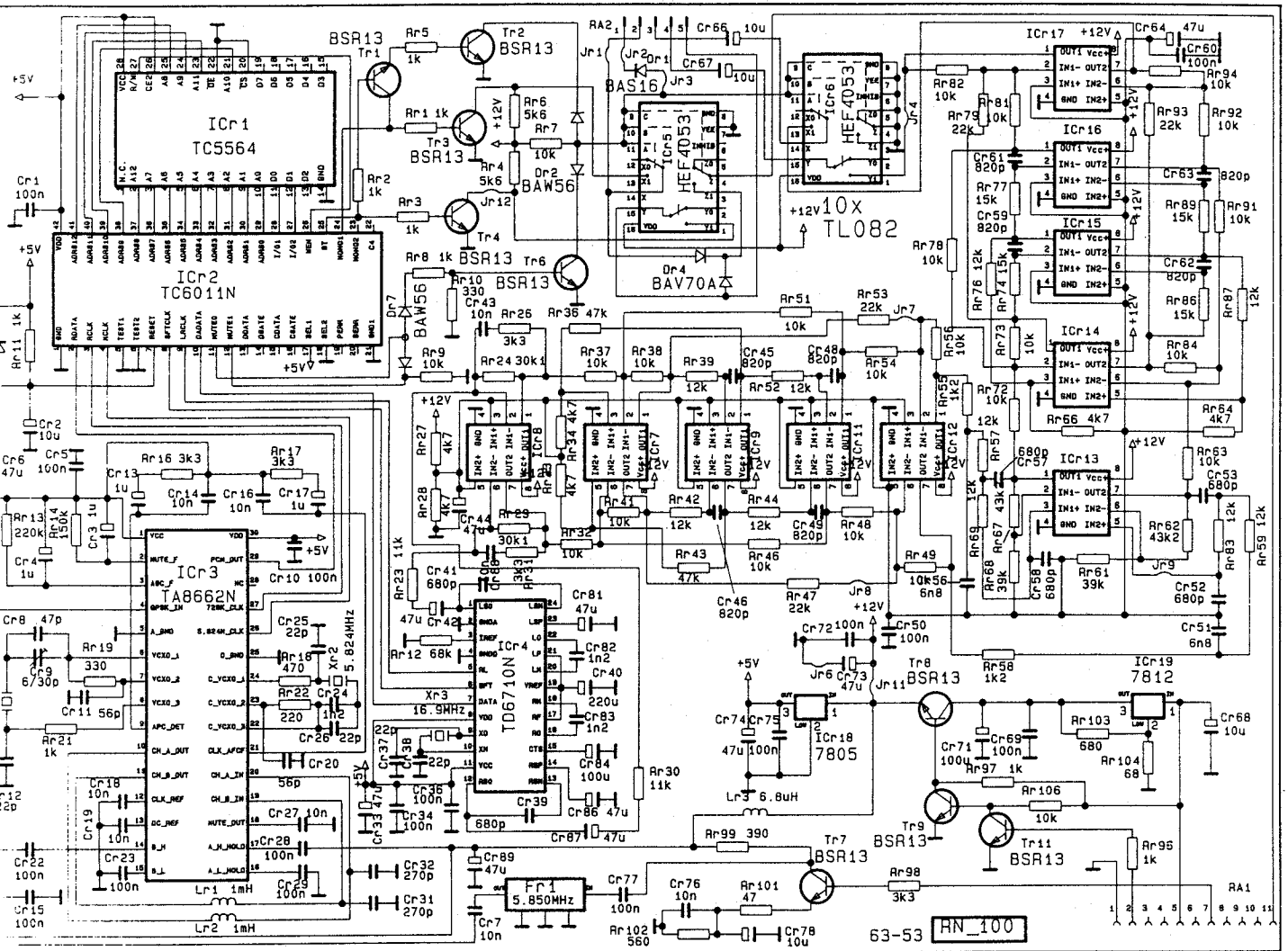
NICAM modele NICAM modul NICAM moduli	Tv-chassis Tv-chassi Tv-kojeisto
RN200	1202, 1204, 1208, 1212, 1213, 1218, 1222, 1232, 1238, 1242, 1248, 1288, 2232, 2242, 2272, 2282
RN100	1308, 1312, 1313, 1318, 1322, 1332, 1342, 1378, 1388, 2332, 2333, 2336, 2342, 2343, 2346, 2372, 2376, 2382, 2386
RN201	1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482
RN101	1622, 1632, 1642, 2633, 2643, 2672, 2682

FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted in same connector.
2. Fit the attached wire between Ra6 and pin 2 of 2ND SOUND connector, as shown in figure 1.
3. Fit the attached bundle of wires to components Rr16 and Rr17 on the component side and to component and D111 on the foil side, as shown in figure 1. R- and L-channel wires are fitted on the component side to prevent radio disturbances.
4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the 2-sound and Stereo wires under the signal unit, as shown in figure 1.

NICAM MODULE RN100 RN101



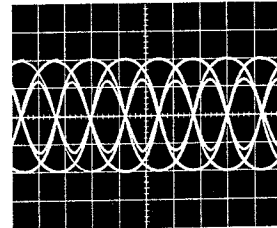
odule

and R17 have been composed in the receivers signal unit. If these resistors
25 W 5%:

of the NICAM module so that it doesn't touch a coolingplate of the signal

components that they won't touch the NICAM module when mounting it on

Probe 10:1
20 mV/div
2 μs/div



FITTING INSTRUCTIONS OF NICAM 728 MODULE FOR 1000/2000-SERIES RN201

"No-CTI-chassis", models 1402, 1408, 1412, 1413, 1418, 1422, 1432, 2472, 2482

1. If there is an extra sound module fitted in the receiver, remove it. The NICAM-module will be fitted into the same connector.
2. Fit the attached wire between Ra6 and pin 2 of 2ND SOUND connector, as shown in figure 1.
3. Fit the attached bundle of wires to components R16 and R17 on the component side and to components D16 and D11 on the foil side, as shown in figure 1. R- and L-channel wires are fitted on the component side to prevent radio disturbances.
4. Fit the NICAM module as follows: remove the connector frame, fit the NICAM module to the 2ND SOUND connector and fit the attached connector frame to its place.
5. Connect the plug of the attached bundle of wires to the socket on the NICAM module. Route the stereo, 2-sound and St/mono wires under the signal unit, as shown in figure 1.

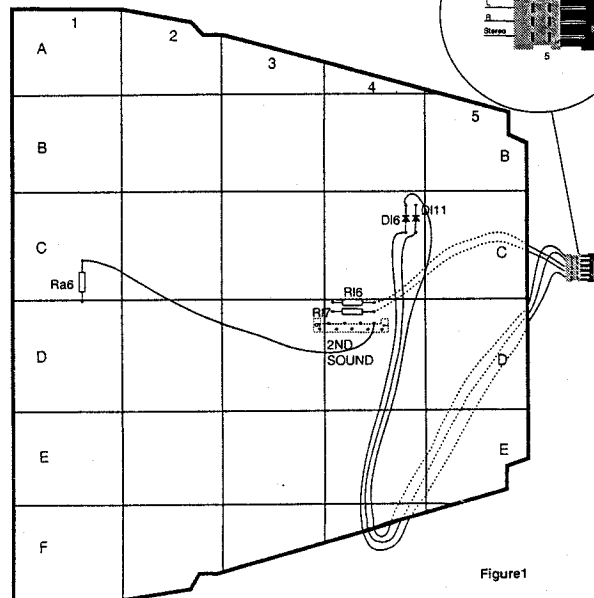
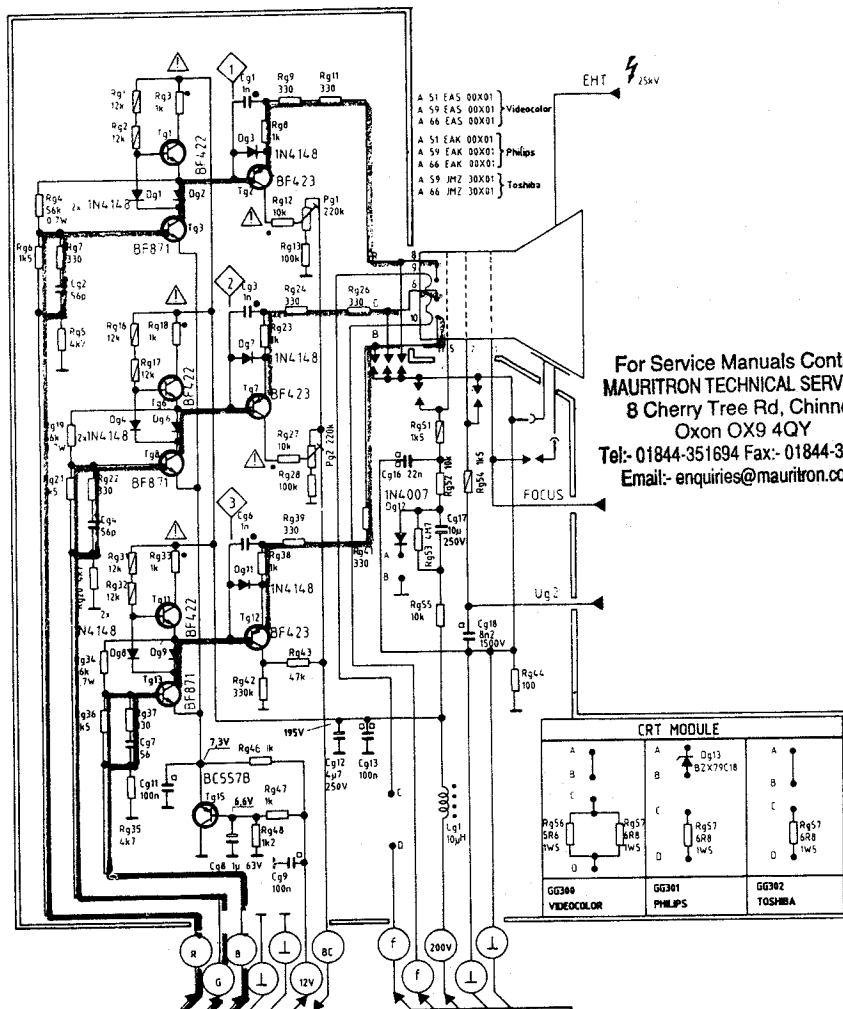


Figure1



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- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G/Y) = GREEN OR LUMINANCE SIGNAL
- (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R OUT) = RIGHT AUDIO CHANNEL
- (L OUT) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (VBS IN) = VIDEO SIGNAL
- (VBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA1) = STATUS FROM SCART 1
- (STA2) = STATUS FROM SCART 2
- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SAT COP) = SATELLITE COPYING
- (MODE 1) = MODE INFORMATION 1
- (MODE 2) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (7V TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (H FLYB) = LINE FLYBACK
- (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (F) = FILAMENT VOLTAGE FOR CRT

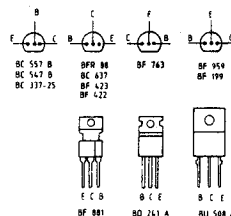
D6

D7

D8

D6

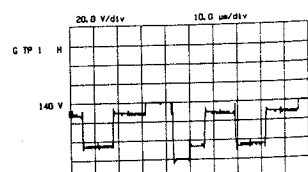
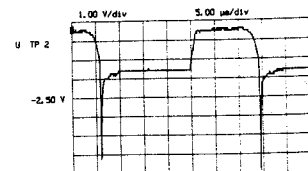
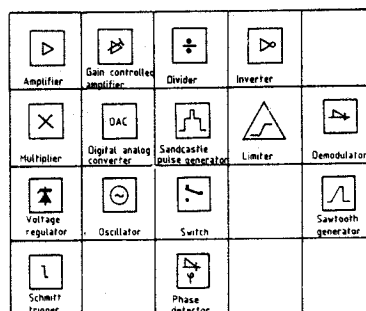
D6



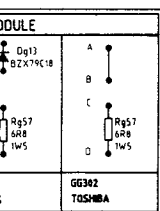
⚠ Critical safety component. Use identical component for replacement.

Ceramic	Polystyren	Polyester Polycarbon	Polypropyl	Notes can be combined when necessary
63 - 100V	63 - 100V	100V	100V	Paper capac
160 - 250V	160 - 250V	250V	250V	Electrol 15V 1500V
400 - 500V	400V	400V	400V	Bipolar capac
Ni - Cap				Tantal capac

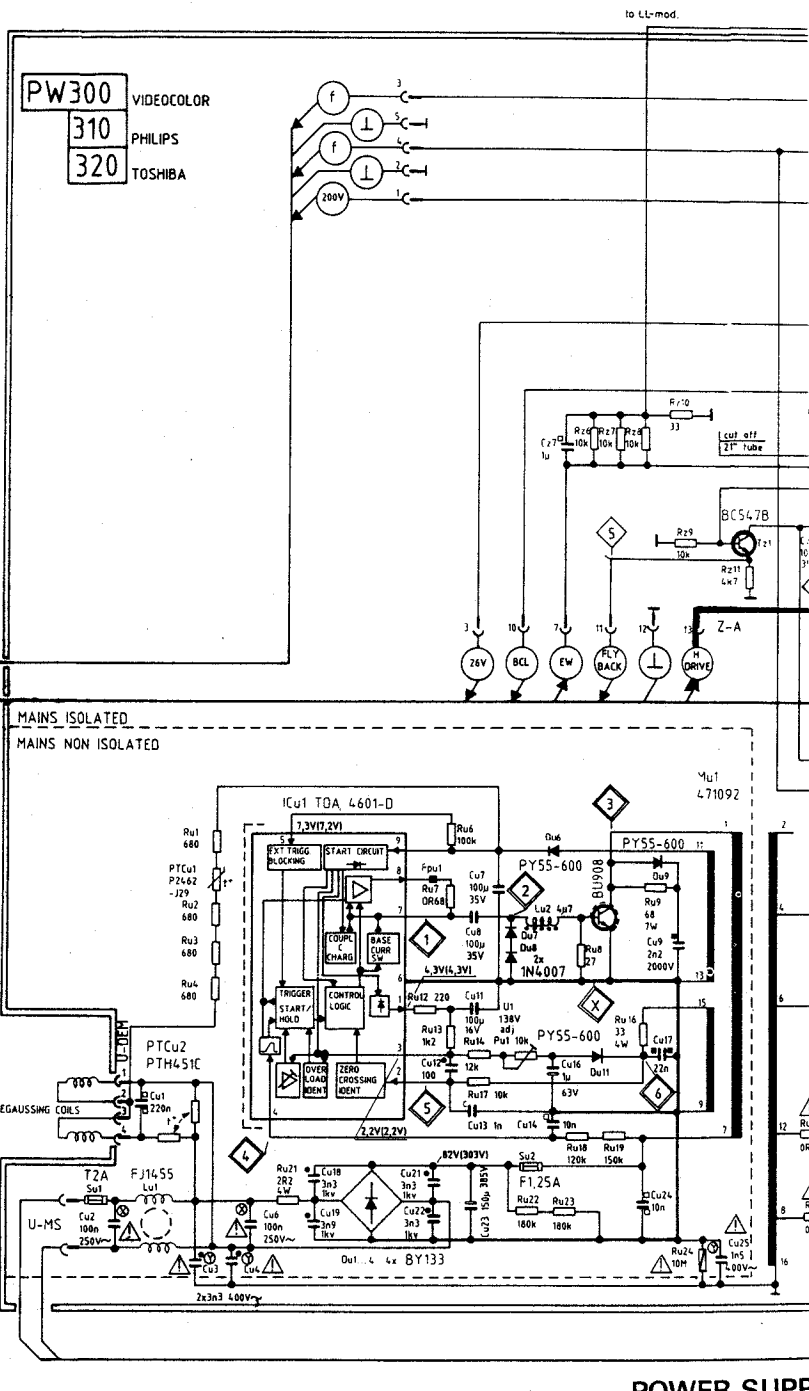
- 1/4W
- 1/2W
- 1W
- 2W
- 3W
- Low noise/Rauschen
- Brasstritt/Pneumatische
- Flame proof/Nicht brennend
- Flammetrigger/Palmette
- Thermal fuses/Sicherheitsicherung
- Termak/Sicherung/Lamm-erische
- Fuse resistor/Sicherungswiderstand
- Sicherungsmelzst/nd/Sicherung



- (B/Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
 (G/Y) = GREEN OR LUMINANCE SIGNAL
 (R/Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
 (FB) = FAST BLANKING SIGNAL
 (R OUT) = RIGHT AUDIO CHANNEL
 (L OUT) = LEFT AUDIO CHANNEL
 (SCL) = SERIAL CLOCK
 (SDA) = SERIAL DATA
 (R IN) = RIGHT AUDIO CHANNEL
 (L IN) = LEFT AUDIO CHANNEL
 (CVBS IN) = VIDEO SIGNAL
 (CVBS OUT) = VIDEO SIGNAL
 (RC) = REMOTE CONTROL
 (STA) = STATUS FROM SCART 1
 (STA2) = STATUS FROM SCART 2
 (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
 (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
 (SAT COPY) = SATELLITE COPYING
 (MODE 1) = MODE INFORMATION 1
 (MODE 2) = MODE INFORMATION 2
 (RGB INV) = RGB INVERTING
 (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
 (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
 (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
 (BC) = BLACK CURRENT
 (EW) = EAST-WEST RASTER CORRECTION
 (BCL) = BEAM CURRENT LIMITING VOLTAGE
 (7V TXT) = SUPPLY VOLTAGE FOR TELETEXT MODULE
 (H FLYB) = LINE FLYBACK
 (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
 (f) = FILAMENT VOLTAGE FOR CRT



D8



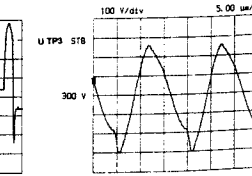
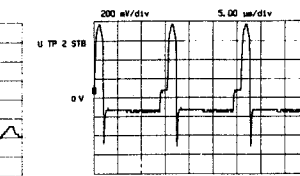
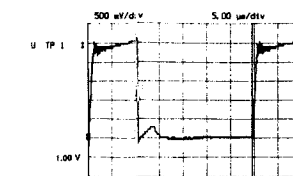
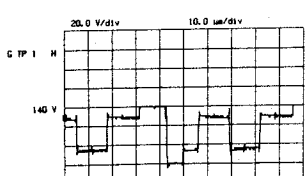
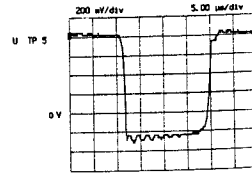
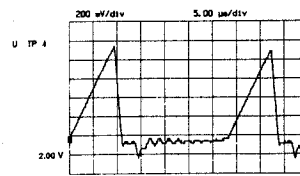
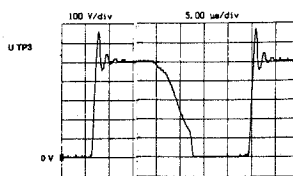
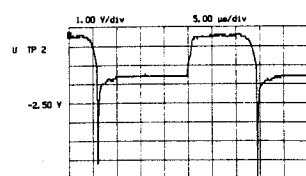
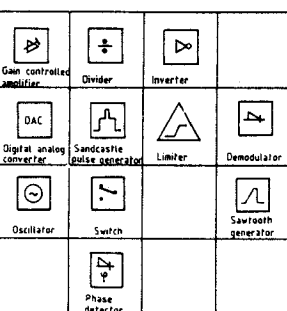
D6

POWER SUPP

D8

D6

safety component. Use identical component placement.



MOUNTING INSTRUCTIONS OF S-VHS

S-VHS CONNECTION KIT

(Order No.: 03500800)

Contents

The connection kit includes following components:

Item	Description	Order No
Colour decoder module		BB 303
S-VHS connection unit		LL 302
S-VHS adapter		96006355
3-pole PCB-connector		51005731
IC11	X2402P	44002625
CI15	1 nF, 20%, 63V	23030507
RI52	1 kΩ, 5%, 0,25W	12114908

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MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

Mounting instructions

- Switch on the receiver and set it to the service mode. Ask the version number of the NVM (Non-volatile memory IC11) by pressing the P/C button.
 - Version 02: the SVHS-function is not programmed
 - Version 03: the SVHS-function is already programmed
 If the version number is 02, perform the mounting according to points 2...9
 If the version number is 03, perform the mounting according to points 3...6 and 9
- Read the registered values of all service adjustments made using the remote control hand unit (see service manual of the 3000 series TV receivers) and write them down on the paper.
 Switch off the receiver and remove the back cover.
- Remove the connector unit LL300 or LL310 and replace it with the connector unit LL302 supplied in the kit.
- Remove the colour decoder module BB300 or BB301 and replace it with the module BB303 supplied in the kit.
- If needed, mount the 3-pole PCB-connector supplied in the kit into place reserved for the 9-pole AS-connector. The 3-pole connector must be mounted so that only pins AS 3, 4, and 5 are used (see Fig. 1)
- Connect the cable connectors BL and AS as shown in Fig. 2.
- Remove the control unit Fc of the receiver and check the etching code of the board. If the etching code is 90505065 replace the components IC11, CI15 and RI52 with the corresponding components supplied in the kit (IC11 = X2402P, CI15 = 1 nF, RI52 = 1 k). Fit the resistor RI52 to the print side so that the end previously connected to pin 7 of the microprocessor (IC12) becomes connected to pin 5. Mount the control unit back to its place. The control unit Fc with etching code 90505452 contains the above-mentioned changes.
- Switch on the receiver and set it to the service mode. Enter and store the above-mentioned (see item 2) control values into the new NVM-memory (IC11) using the remote control hand unit.
- Perform the configuration and store it into memory. Reset the receiver using the mains switch.

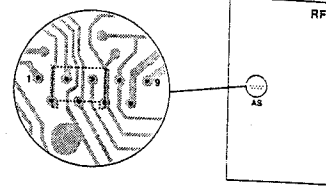


Fig. 1

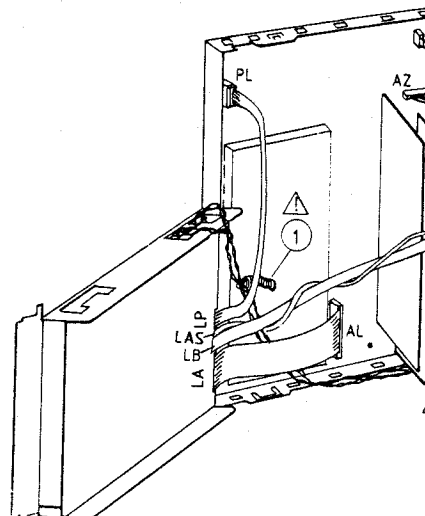
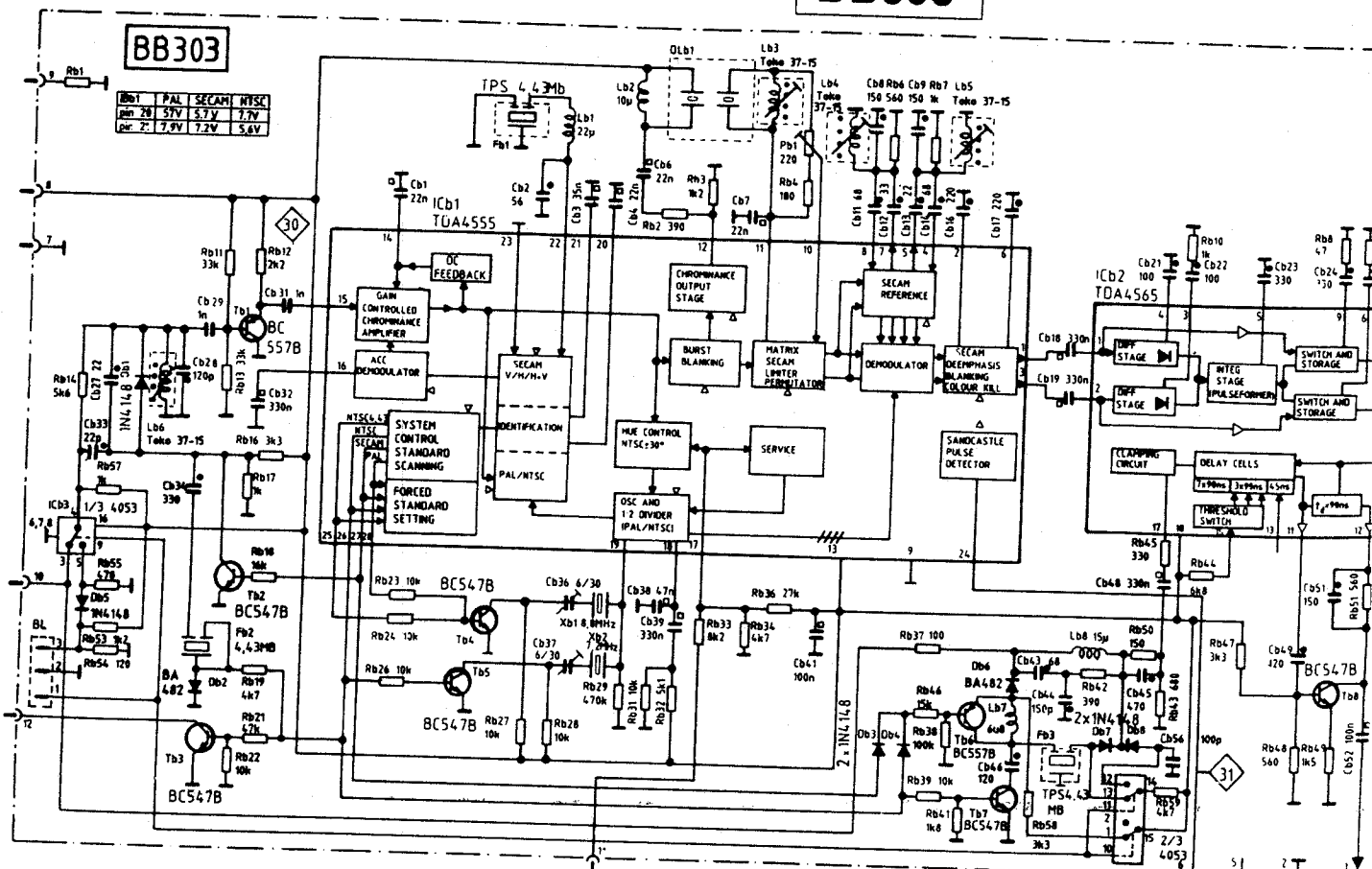
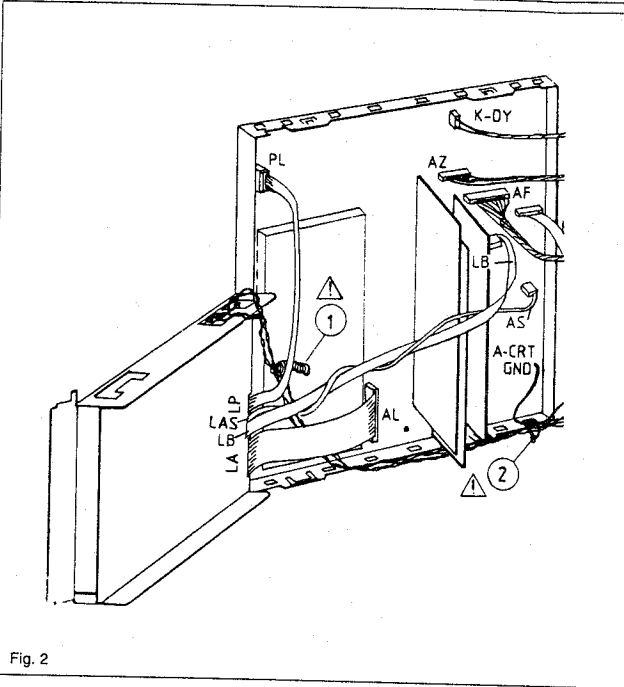
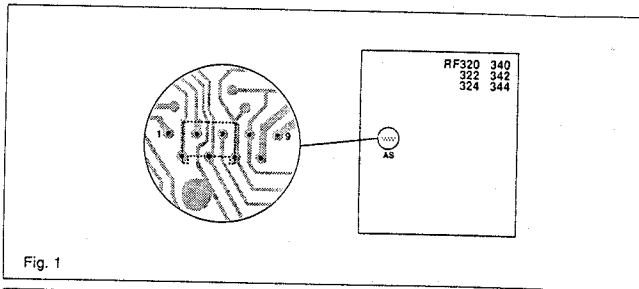


Fig. 2

COLOUR DECODER MODULE

BB303





(Non-volatile

(see service

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3 supplied in

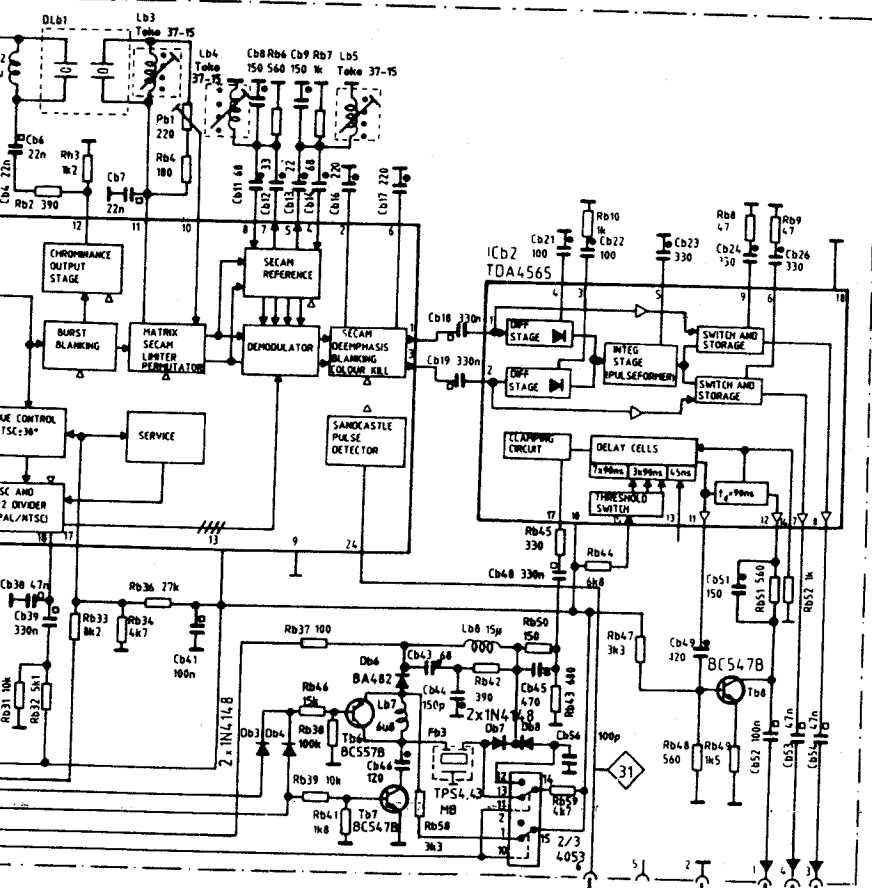
9-pole AS-
(see Fig. 1)atching code
nts supplied
at the end
at the control
-mentioned

(see item 2)

ch.

LE

BB303



SERVICE ADJUSTMENTS

B1. Reference oscillator

Connect a colour bar test signal. Connect pin 17 of ICb1 to the ground. Adjust PAL colours straight with Cb36. Remove the link and check that the colours stay on their own places. Make the same adjustments to the 3.58 MHz NTSC colours with Cb37 (only in module BB303).

B2. PAL-delay demodulator

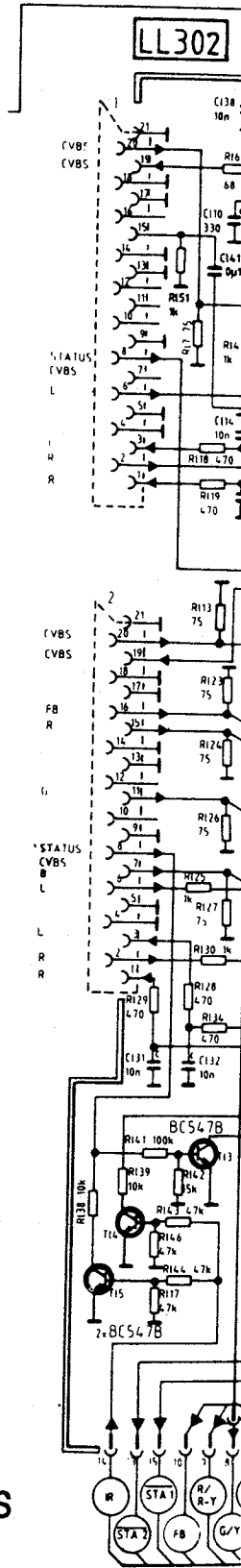
Connect a colour test chart. Eliminate the "Venetian blind effect" on the colour fields +V and ±U with Pb1, likewise on the colour field +U with Lb3. Repeat the procedure if necessary.

B3. SECAM colour filter

Connect SECAM signal to the aerial inlet. Connect oscilloscope to test point 30 and adjust Lb6 so that pattern is equal.

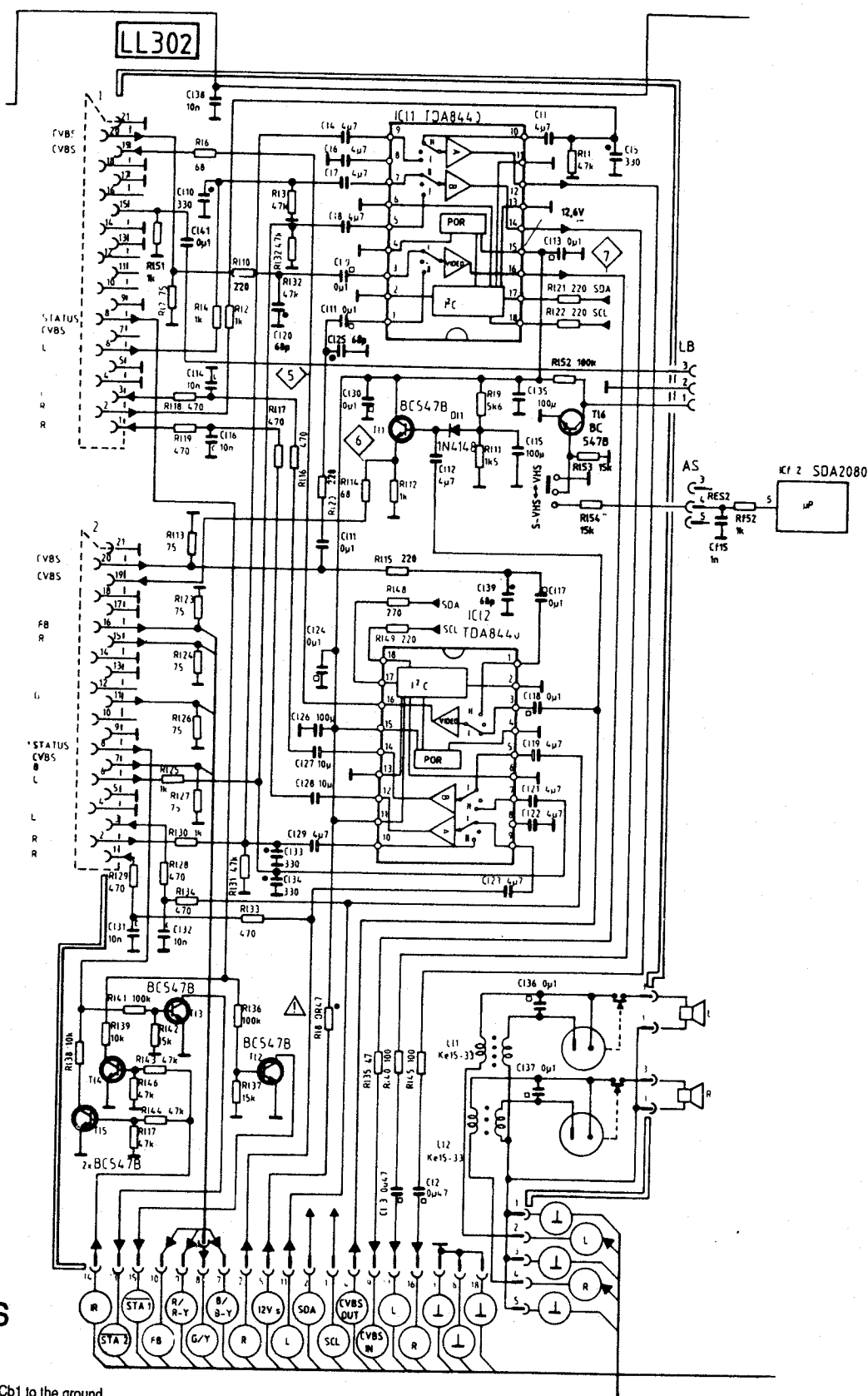
B4. SECAM demodulator

Connect SECAM signal to the aerial inlet. Connect the oscilloscope to pins 1 and 3 of ICb1. Tune with Lb4 and Lb5 test chart so that uncoloured parts are uncoloured. Remove the measuring cables. Fine-tune colours equal and edges of colours sharp with Lb6.



LL302

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SERVICE ADJUSTMENTS

B1. Reference oscillator

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MATRIX

ITEM

SEE MODEL

Power Supply/Deflection

PW300/310/320

VHF Sub-Mod 4110

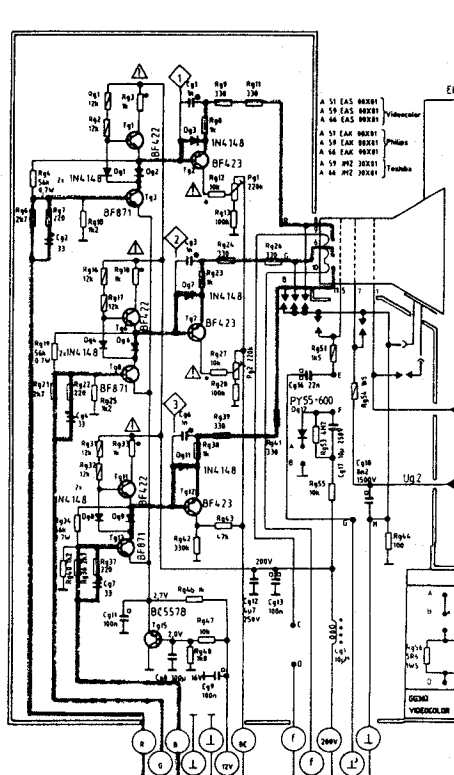
FINLUX 3021

FINLUX 3021

FINLUX 3021

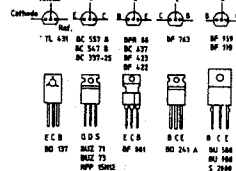
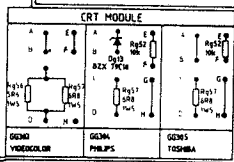
MOUNTING INSTRUCTIONS OF THE NICAM 728 MODULE

CRT MODULE



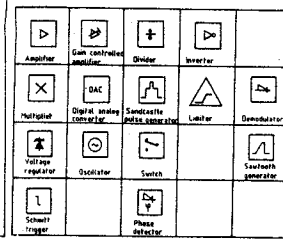
- (B-Y) = BLUE OR B-Y COLOUR DIFFERENCE SIGNAL
- (G-Y) = GREEN OR LUMINANCE SIGNAL
- (R-Y) = RED OR R-Y COLOUR DIFFERENCE SIGNAL
- (FB) = FAST BLANKING SIGNAL
- (R OUT) = RIGHT AUDIO CHANNEL
- (L OUT) = LEFT AUDIO CHANNEL
- (SCL) = SERIAL CLOCK
- (SDA) = SERIAL DATA
- (R IN) = RIGHT AUDIO CHANNEL
- (L IN) = LEFT AUDIO CHANNEL
- (VBS) = VIDEO SIGNAL
- (VBS OUT) = VIDEO SIGNAL
- (RC) = REMOTE CONTROL
- (STA) = STATUS FROM SCART 1
- (STA) = STATUS FROM SCART 2

- (L HP) = LEFT AUDIO CHANNEL FOR HEADPHONES
- (R HP) = RIGHT AUDIO CHANNEL FOR HEADPHONES
- (SA) = SATELLITE COPYING
- (MOD) = MODE INFORMATION 1
- (MOD) = MODE INFORMATION 2
- (RGB INV) = RGB INVERTING
- (HOLD) = PROCESSOR DISCONNECTING FROM I²C-BUS
- (P-ON) = PICTURE ON DRIVING VOLTAGE 12 V
- (S-ON) = SOUND ON DRIVING VOLTAGE 12 V
- (BC) = BLACK CURRENT
- (EW) = EAST-WEST RASTER CORRECTION
- (BCL) = BEAM CURRENT LIMITING VOLTAGE
- (TV TX) = SUPPLY VOLTAGE FOR TELETEXT MODULE
- (H FLYB) = LINE FLYBACK
- (H DRIVE) = DRIVE PULSES FOR LINE OUTPUT STAGE
- (I) = FILAMENT VOLTAGE FOR CRT



Critical safety component: Use identical component for replacement.

Value	Resistor	Capacitor	Diode	Transistor	IC
10k	10k	100nF	1N4148	2N3904	7418
100k	100k	100nF	1N4148	2N3904	7418
1M	1M	100nF	1N4148	2N3904	7418
10M	10M	100nF	1N4148	2N3904	7418
100M	100M	100nF	1N4148	2N3904	7418
1G	1G	100nF	1N4148	2N3904	7418
10G	10G	100nF	1N4148	2N3904	7418
100G	100G	100nF	1N4148	2N3904	7418
1T	1T	100nF	1N4148	2N3904	7418



DD310 / 311 / 312 / 313 / 314 / 320

fig. 1

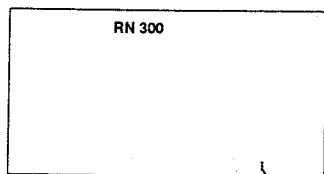


fig. 2

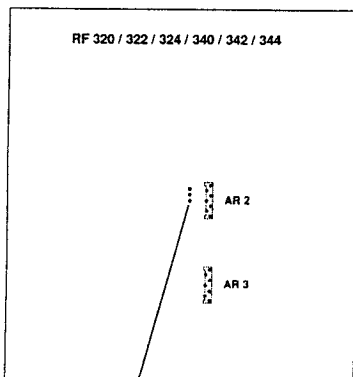


fig. 3

1. a) When mounting the NICAM-sound module to receiver containing the LF sound module (DD310, DD311, DD312, DD313, DD314, DD320), cut off the foils on DD-module as shown in fig. 1.

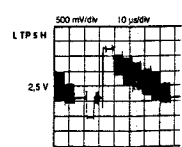
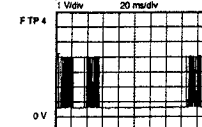
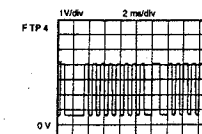
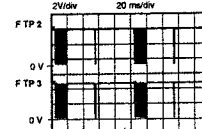
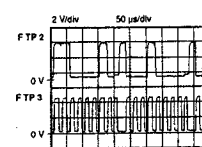
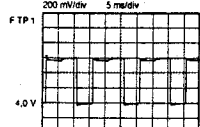
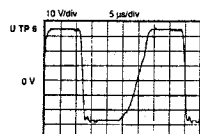
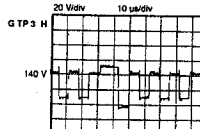
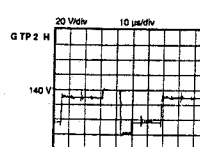
1. b) When mounting the NICAM-module to receiver containing the German A2 standard stereo sound module, cut off the foils on NICAM module as shown in fig. 2.

2. If the RF-block doesn't contain ready-mounted pin contacts AR2 and AR3, mount the contacts as shown in fig. 3.

3. Cut off the foils on RF-block as shown in fig. 3.

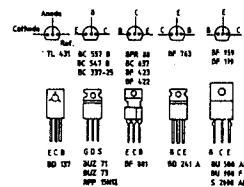
4. Mount the NICAM-module on contacts AR2 and AR3.

5. Make an isolating cover on Cd 14 (DD-module) using plastic tape or tube.

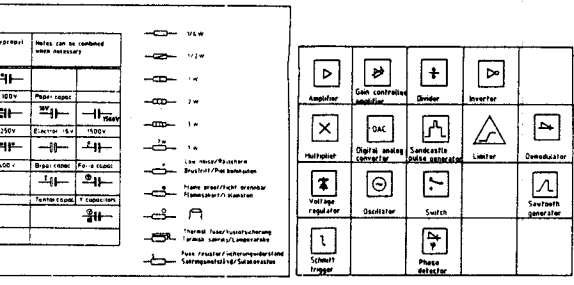


NICAM 728 MODULE

- L HP = LEFT AUDIO CHANNEL FOR HEADPHONES
 R HP = RIGHT AUDIO CHANNEL FOR HEADPHONES
 SAT COPY = SATELLITE COPYING
 MODE 1 = MODE INFORMATION 1
 MODE 2 = MODE INFORMATION 2
 RGB INV = RGB INVERTING
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 P-ON = PICTURE ON DRIVING VOLTAGE 12 V
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 I = FILAMENT VOLTAGE FOR CRT



⚠ Critical safety component. Use identical component for replacement.



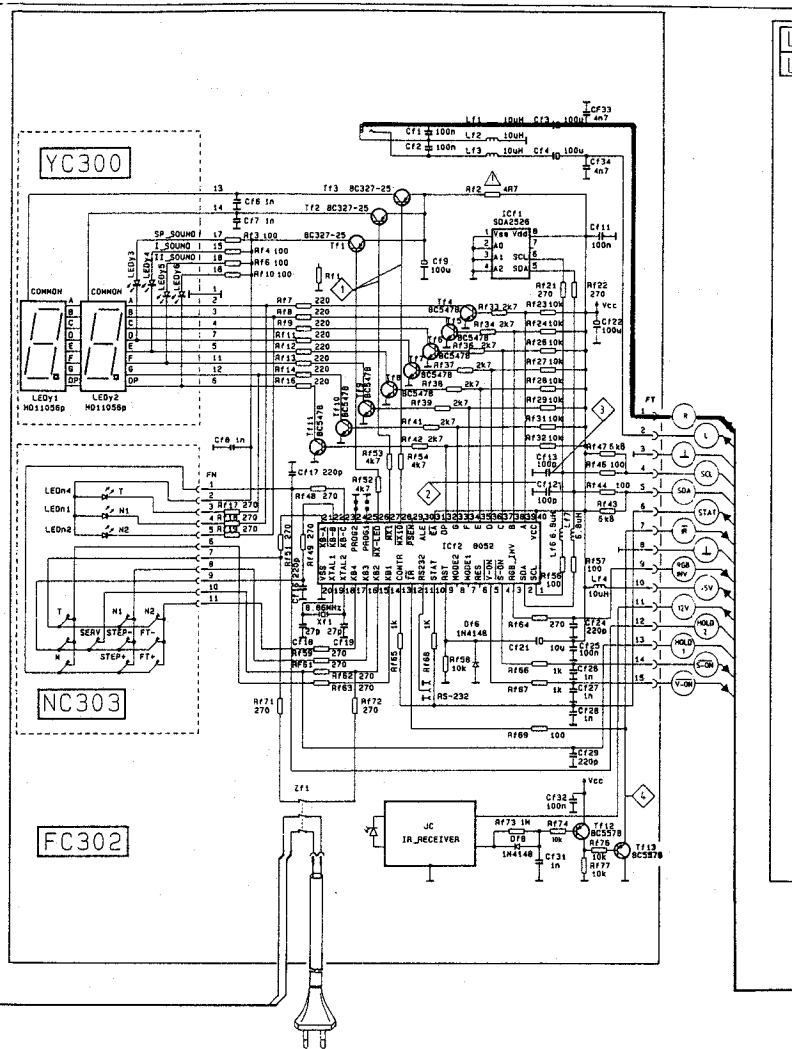
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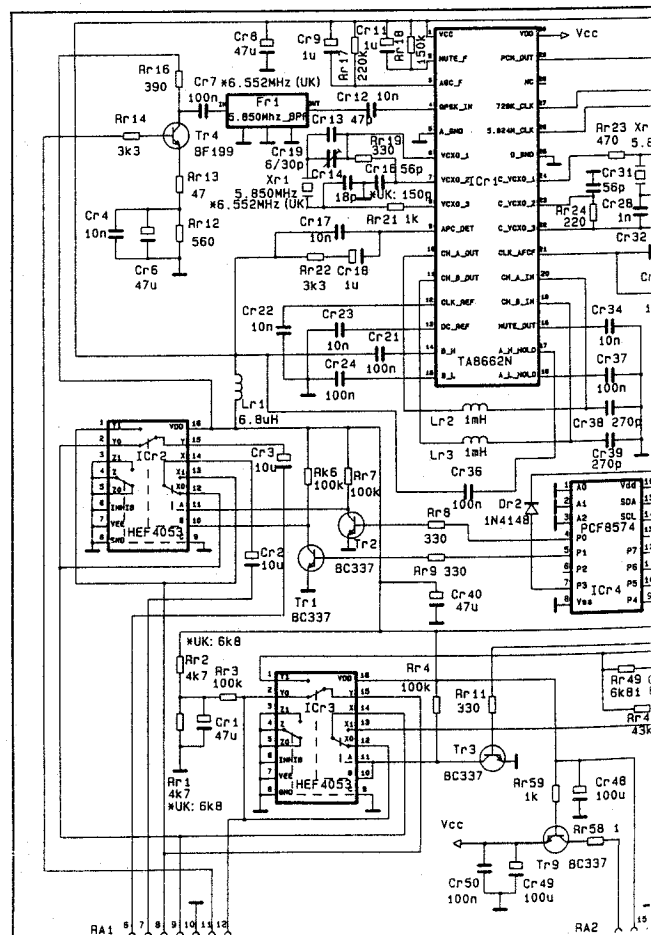
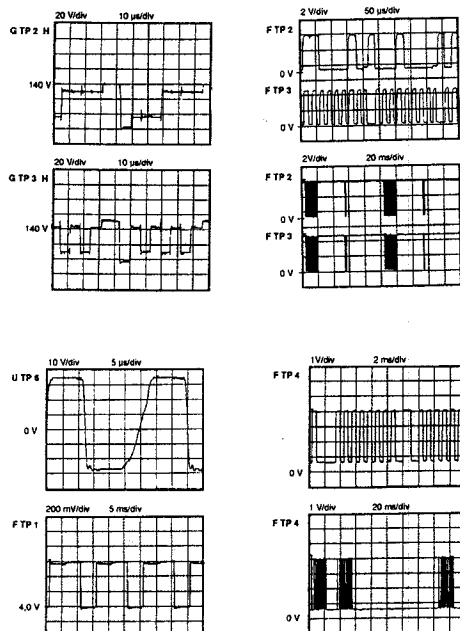
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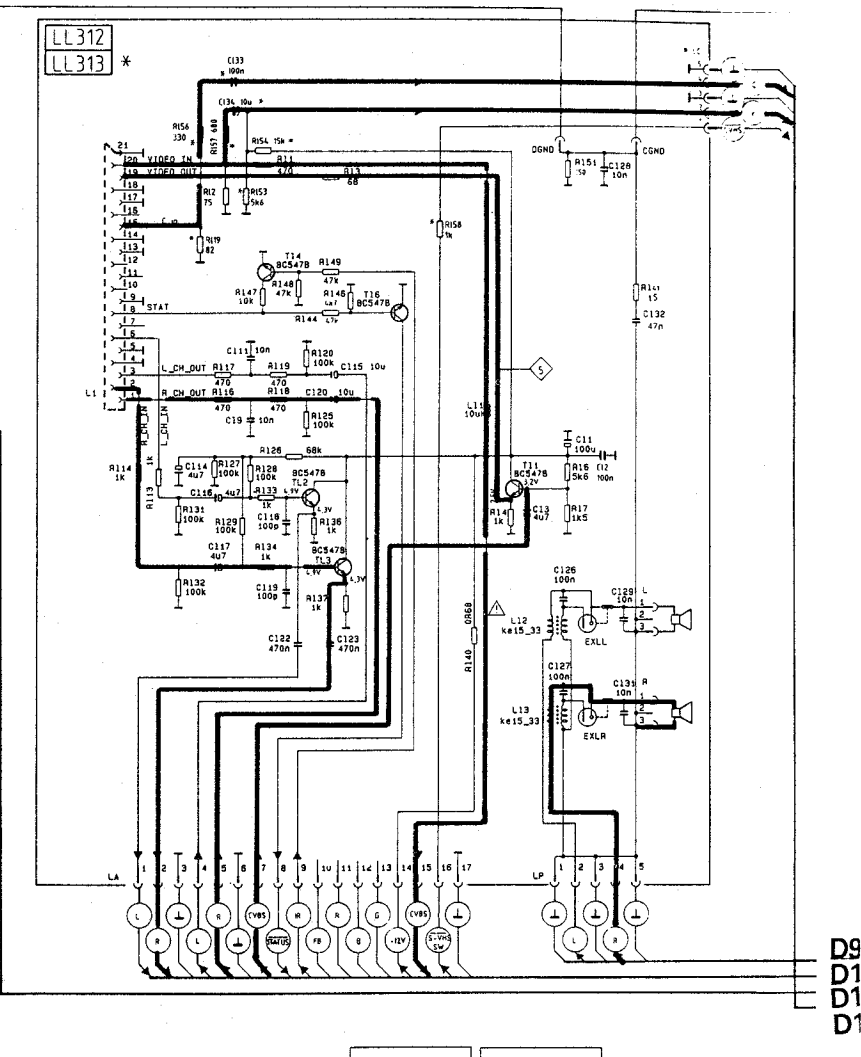
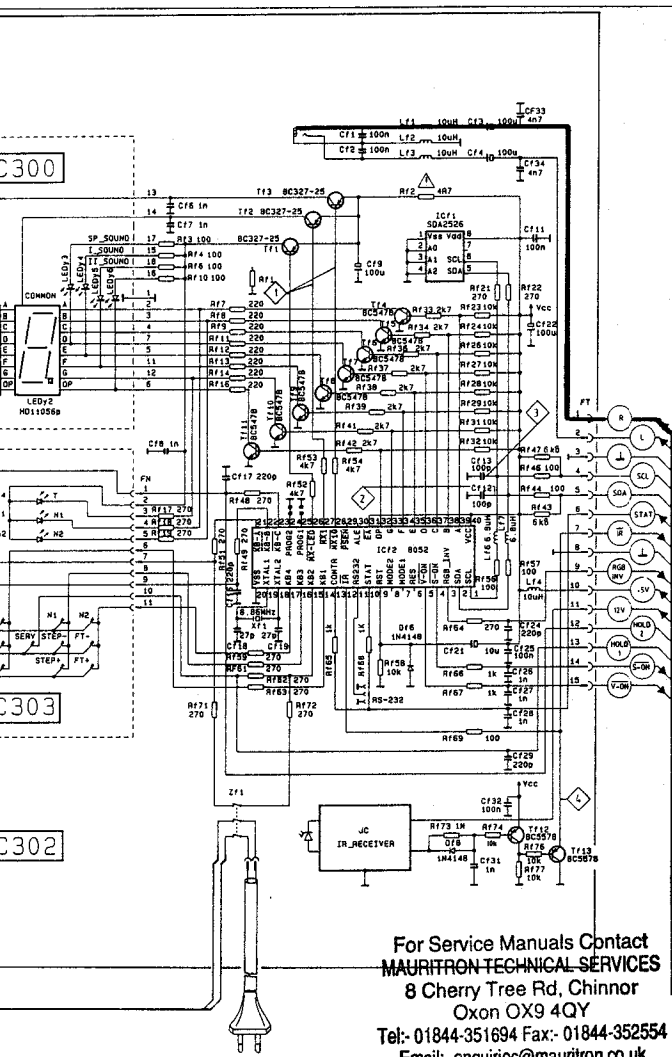


D6



CONTROL UNIT

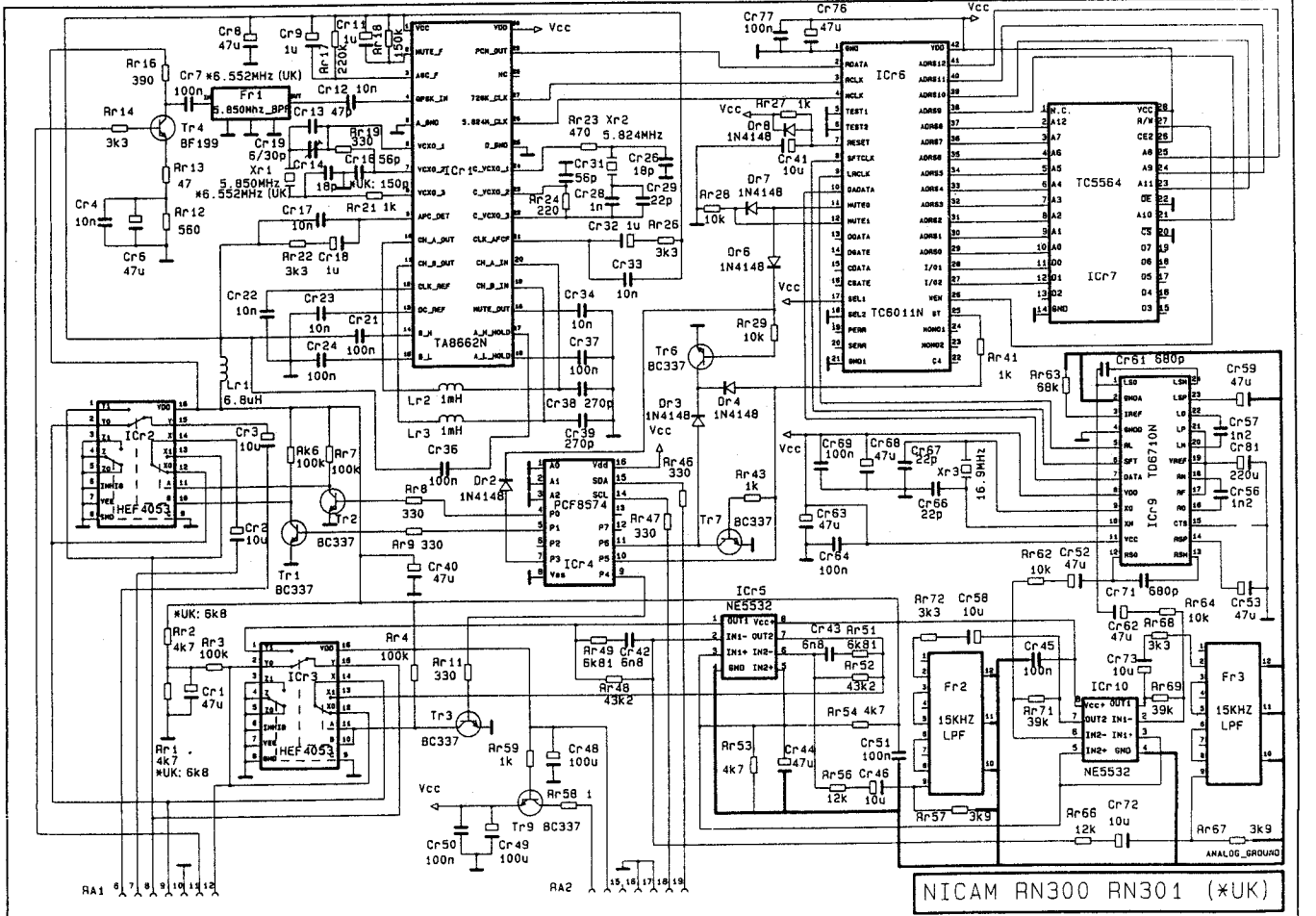
CONNECTOR UNIT



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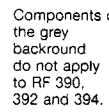
NICAM MODULE

RN300 RN301

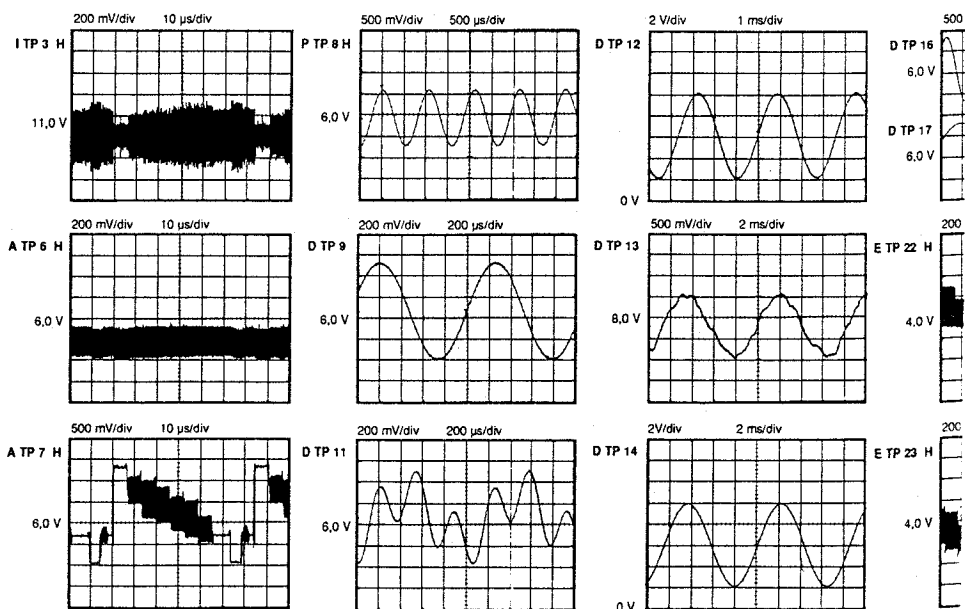


NICAM RN300 RN301 (*UK)

TUNER UNIT

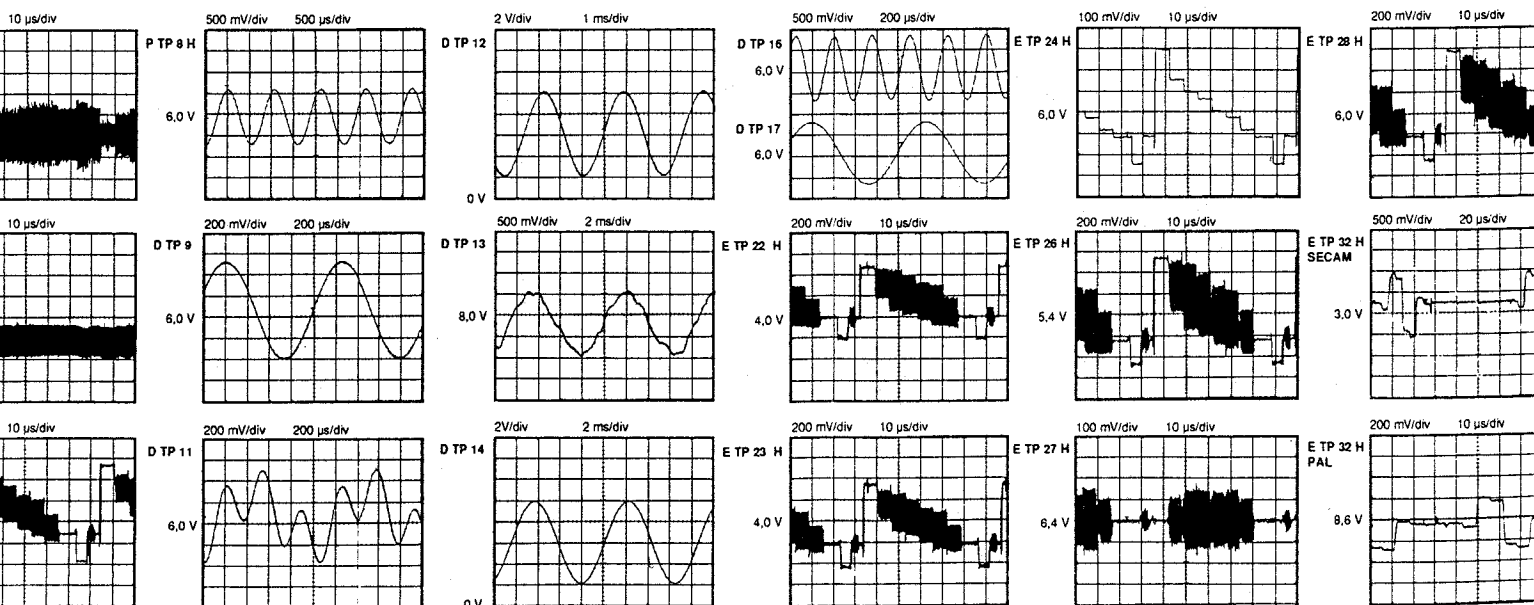
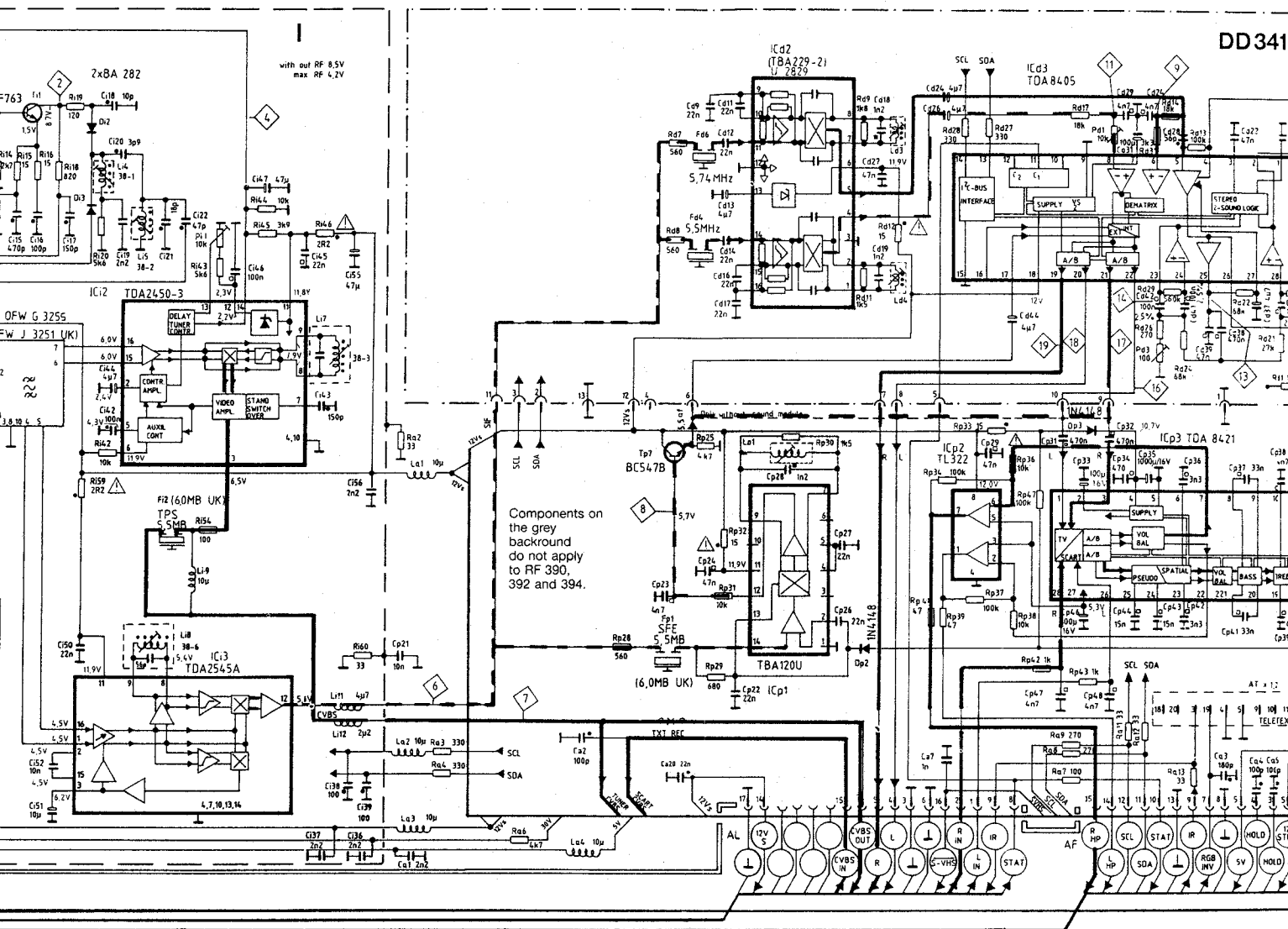


TYPES		TYPES		TYPES	
MODELS		MODELS		MODELS	
3624V	1GC	3624V	1NC	3624V	1DC
3628E	1GC	3628E	1NC	3628E	1DC
3624E	1GC	3624E	1NC	3624E	1DC
3628M	1GC	3628M	1NC	3628M	1DC
3624M	1GC	3624M	1NC	3624M	1DC
3628P	1GC	3628P	1NC	3628P	1DC
3624P	1GC	3624P	1NC	3624P	1DC
3621F	1GC	3621F	1NC	3621F	1DC



SOUND MODULE

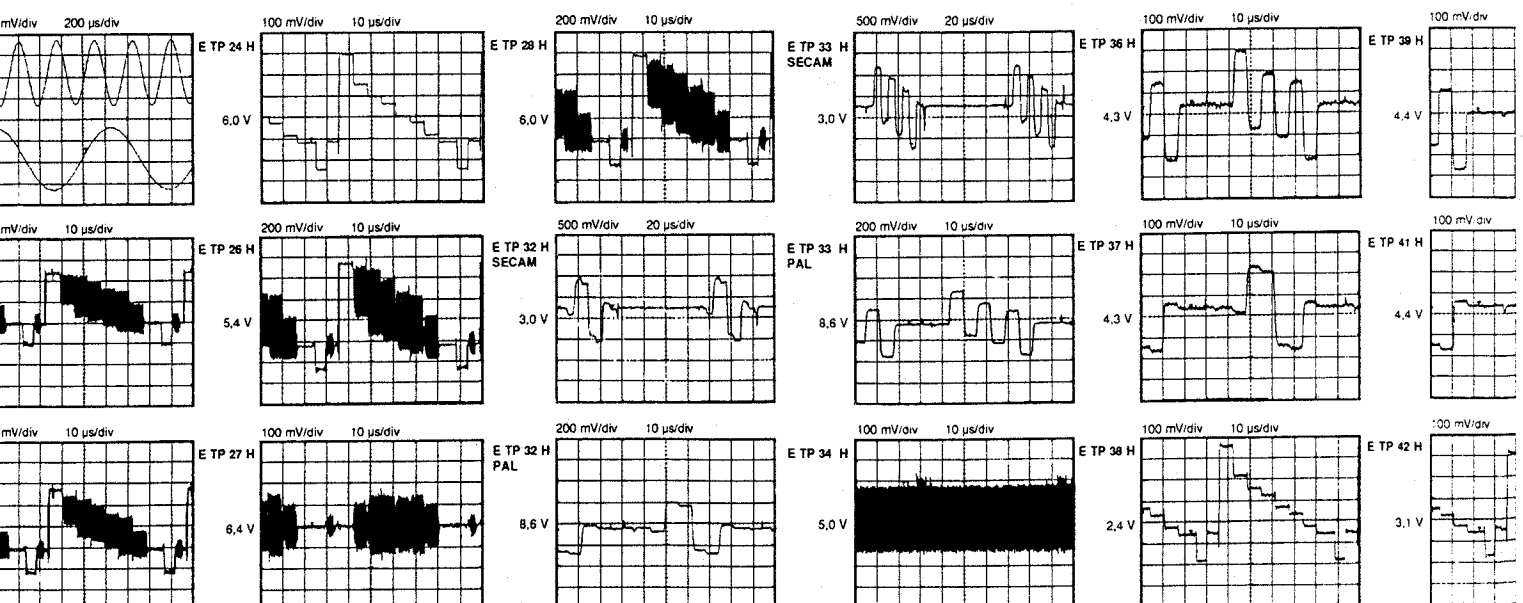
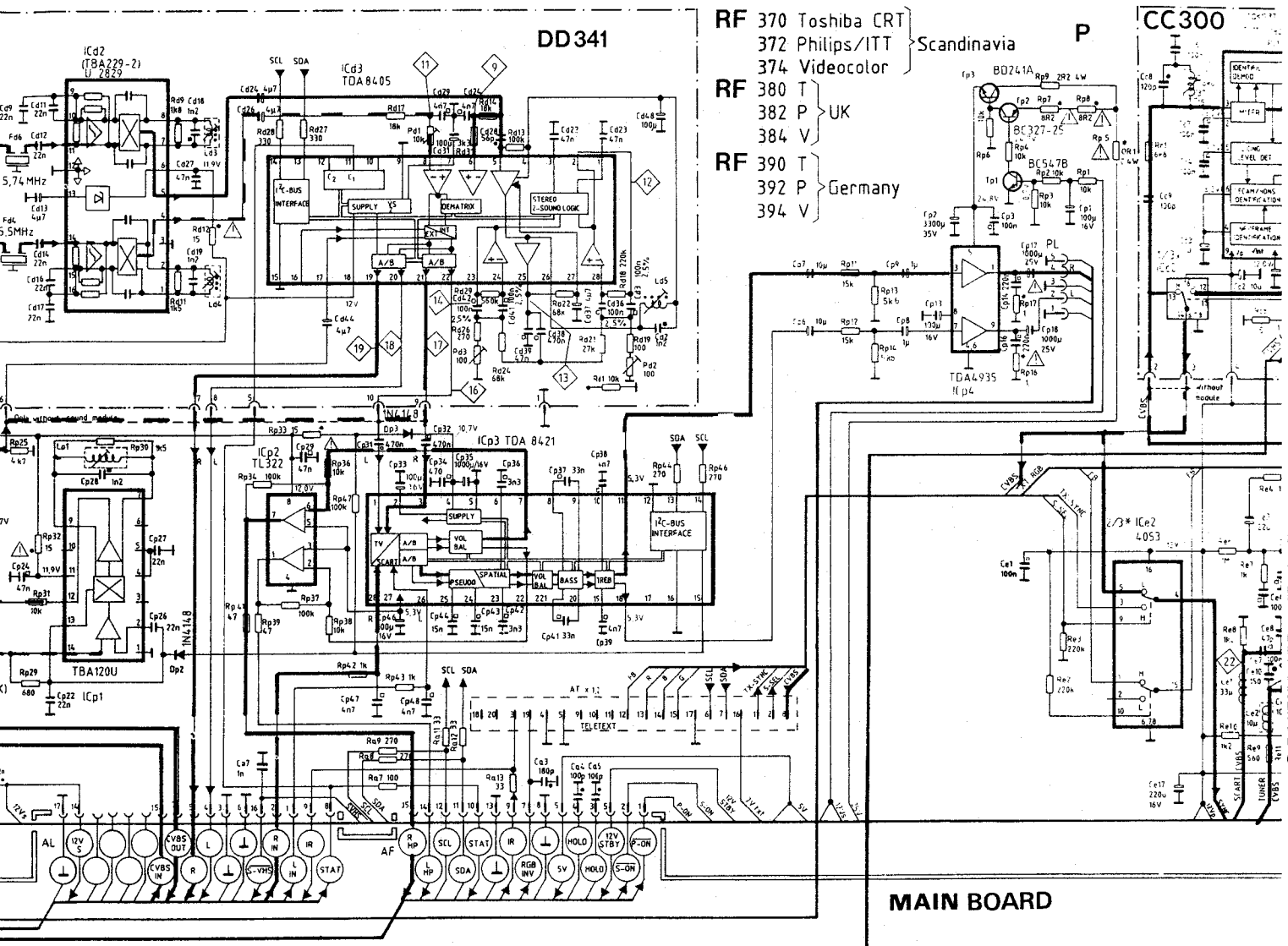
DD 341



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SOUND MODULE

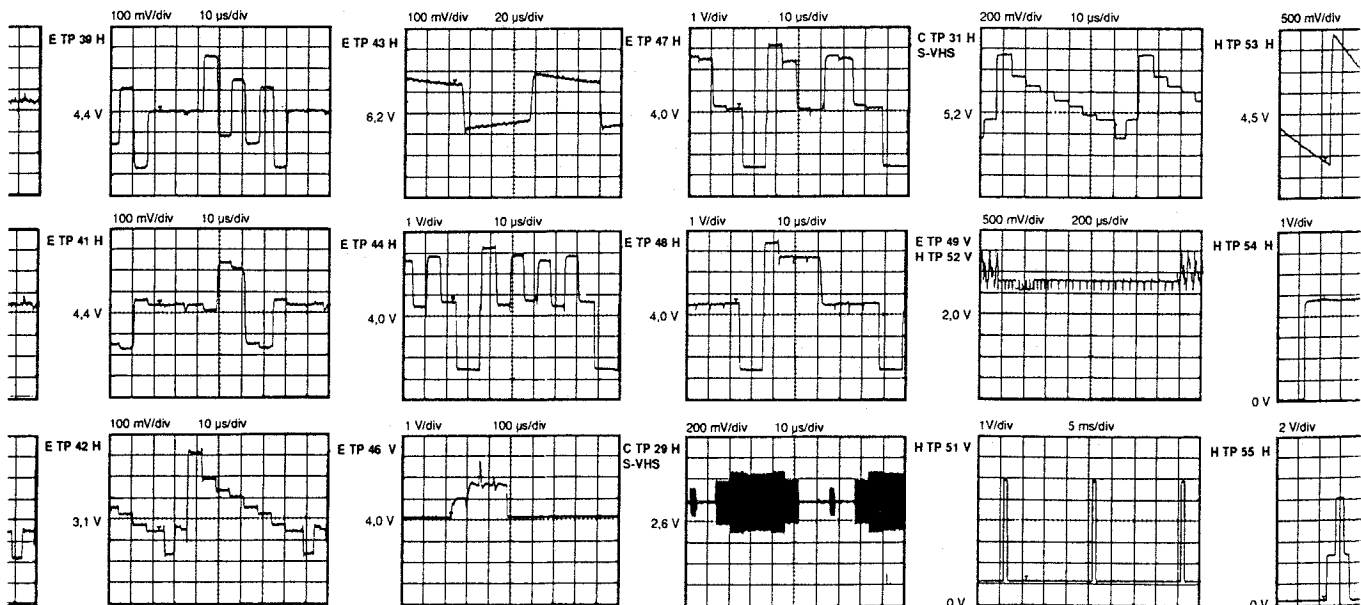
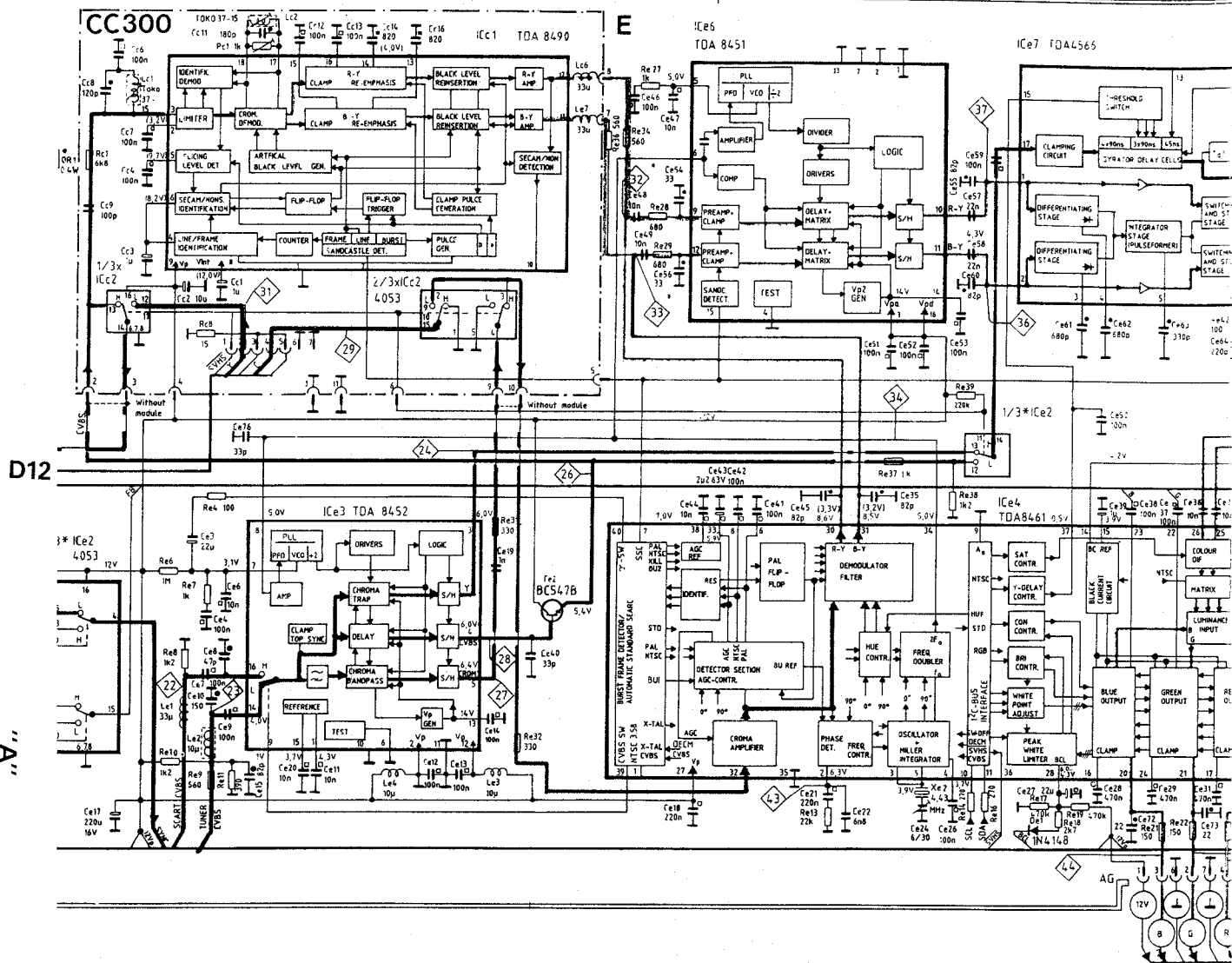
AUDIO AMPLIFIER



SECAM MODULE

LUMINANCE AND CHROMINANCE

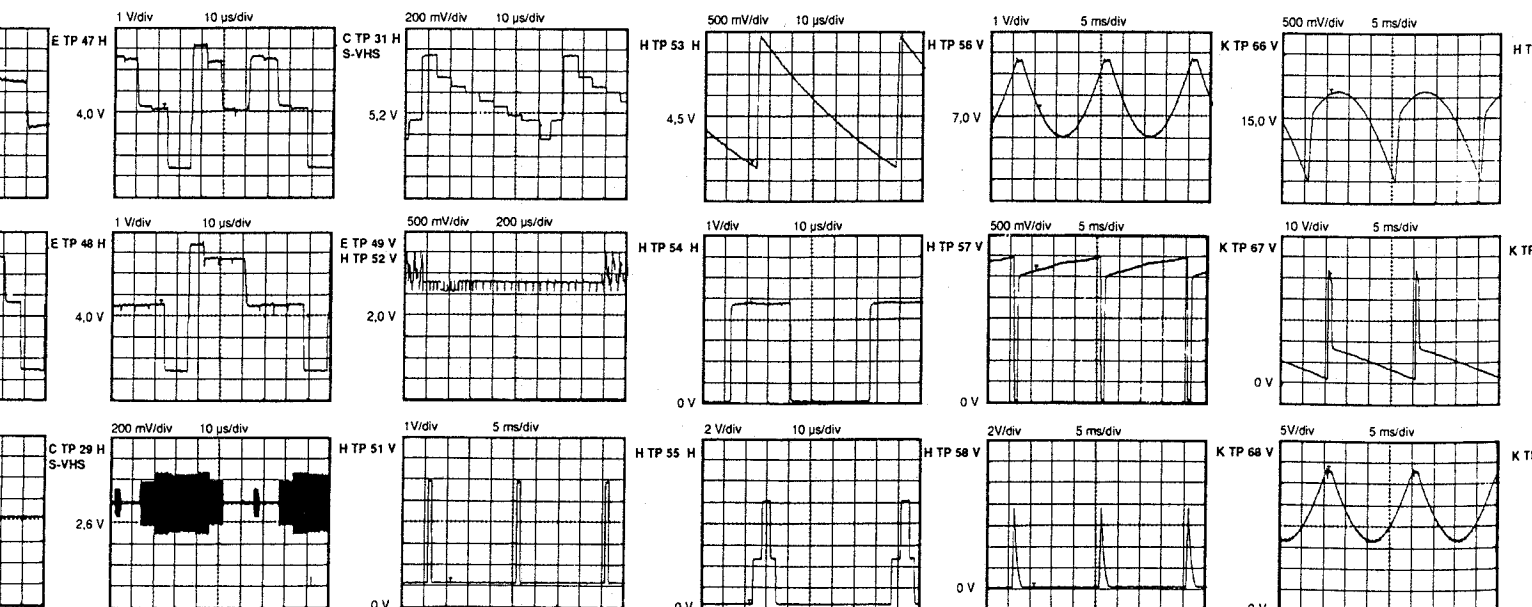
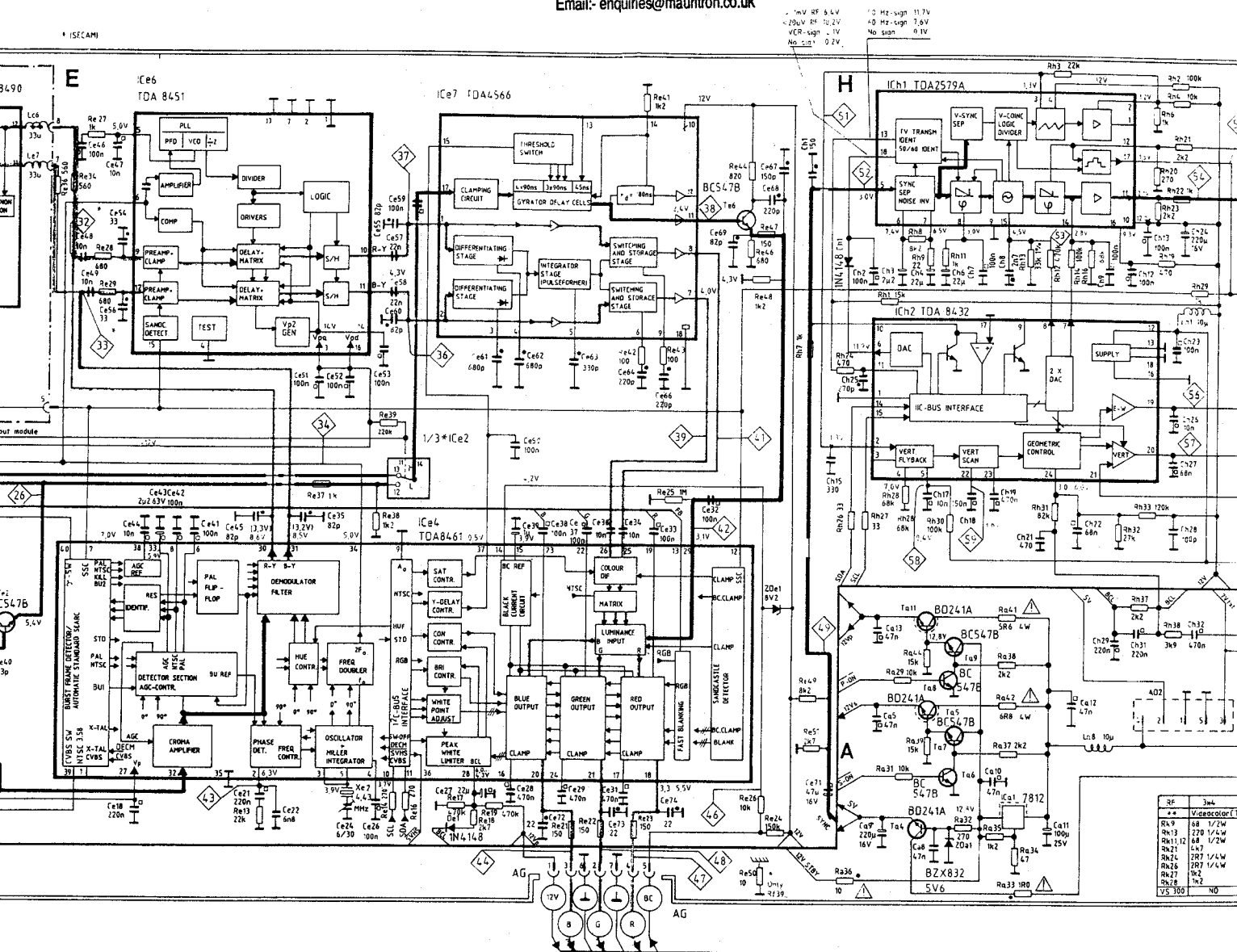
• (SECAM)



For Service Manuals Contact
MAURITRON TECHNICAL SERVICES
 8 Cherry Tree Rd, Chinnor
 Oxon OX9 4QY
 Tel: 01844-351694 Fax: 01844-352554
 Email: enquiries@mauritron.co.uk

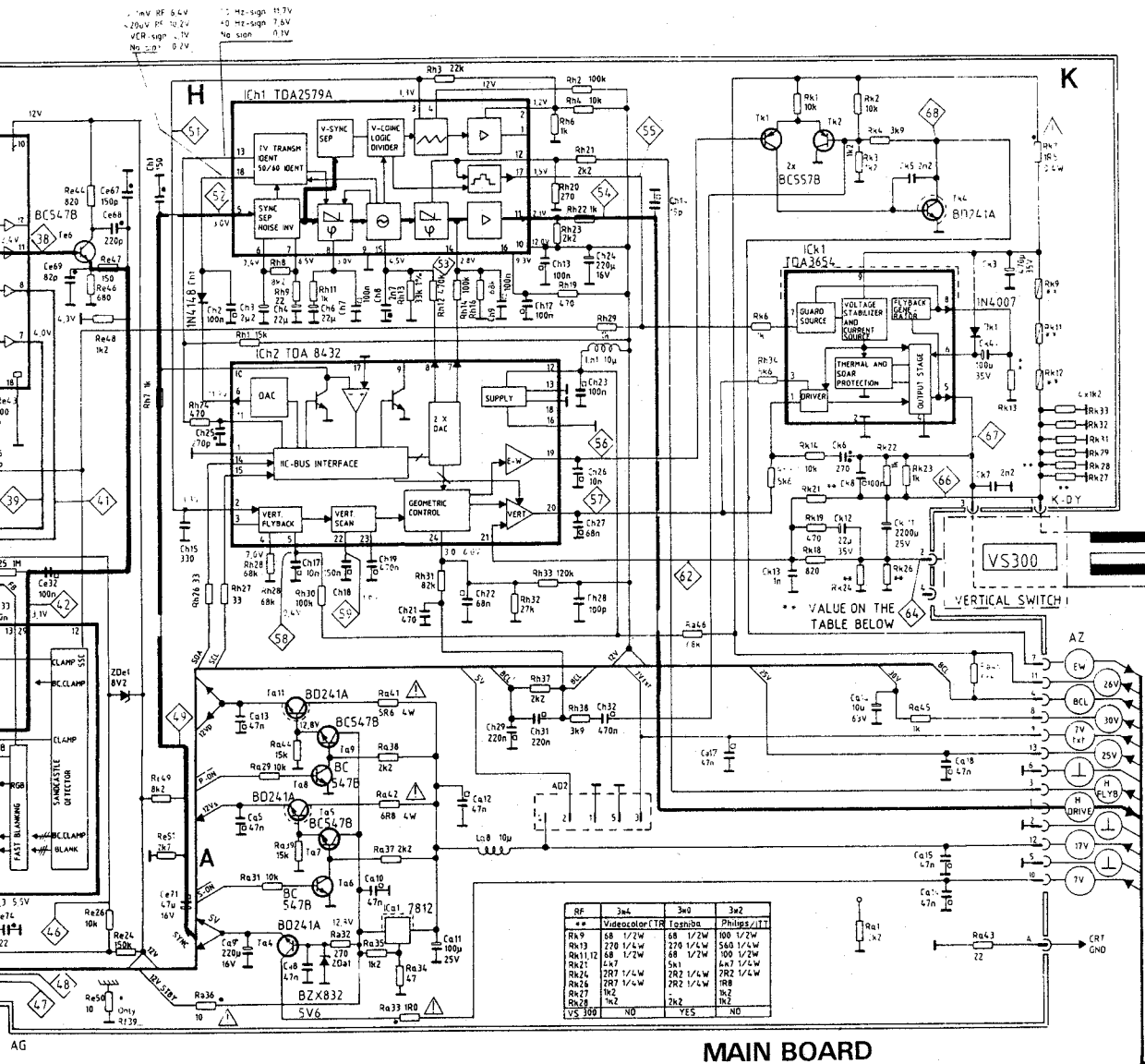
LUMINANCE AND CHROMINANCE

SYNC/ DEFLECTION PROCESSOR



SYNC/ DEFLECTION PROCESSOR

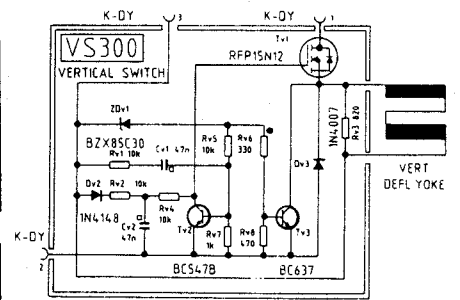
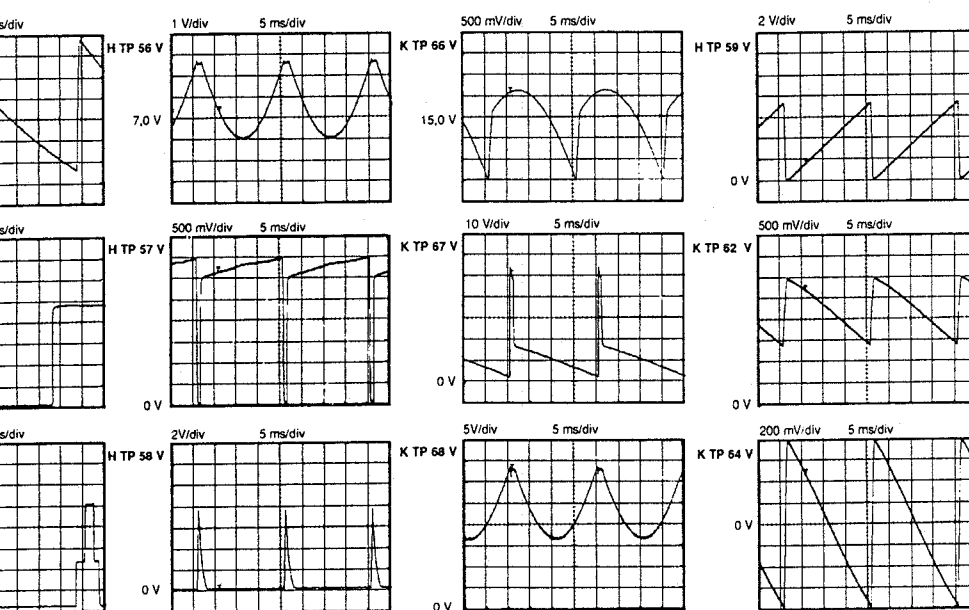
VERT DEFLECTION



MAIN BOARD

D6

D7



Equipments and setting values for pulses:
 Signal generator PM 5515-TX
 Amplitude of video signal 1V (E TP 22 H)
 Modulation of chrominance signal 100%
 Amplitude of RF signal 3 mV
 Sound stereo (or dual), 1 kHz (L), 3 kHz (R)
 Test picture colour bar